
Section 1: 10-Q (10-Q)

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**
Washington, D.C. 20549
FORM 10-Q

(Mark One)

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

For the quarterly period ended March 31, 2018

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: 000-08185

CHEMICAL FINANCIAL CORPORATION

(Exact Name of Registrant as Specified in Its Charter)

Michigan

(State or Other Jurisdiction of
Incorporation or Organization)

**235 E. Main Street
Midland, Michigan**

(Address of Principal Executive Offices)

38-2022454

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

48640

(Zip Code)

(989) 839-5350

(Registrant's Telephone Number, Including Area Code)

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Website, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes No

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

Large accelerated filer	<input checked="" type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/> (Do not check if a smaller reporting company)	Smaller reporting company	<input type="checkbox"/>
Emerging growth company	<input type="checkbox"/>		

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 Exchange Act). Yes No

The number of shares outstanding of the registrant's Common Stock, \$1 par value, as of May 7, 2018, was 71,354,530 shares.

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Forward-Looking Statements

This report contains forward-looking statements that are based on management's beliefs, assumptions, current expectations, estimates and projections about the financial services industry, the economy and us. Words and phrases such as "anticipates," "believes," "continue," "estimates," "expects," "forecasts," "future," "intends," "is likely," "judgment," "look ahead," "look forward," "on schedule," "opinion," "opportunity," "plans," "potential," "seeks," "predicts," "probable," "projects," "should," "strategic," "trend," "will," and variations of such words and phrases or similar expressions are intended to identify such forward-looking statements. These statements include, among others, statements related to: our belief that unrealized losses on our investment securities at March 31, 2018 were temporary in nature, our strategic plan to develop customer relationships that will drive core deposit growth and stability, management's belief that our commercial and commercial real estate loan portfolios are generally well-secured, management's opinion that our borrowing capacity could be expanded, the impact of projected changes in net interest income assuming changes to short-term market interest rates, statements regarding our risk exposure in our primary markets, as well as statements related to the anticipated effects on results of operations and financial condition from expected developments. All statements referencing future time periods are forward-looking.

Management's determination of the provision and allowance for loan losses; the carrying value of acquired loans, goodwill and mortgage servicing rights; the fair value of investment securities (including whether any impairment on any investment security is temporary or other-than-temporary and the amount of any impairment); and management's assumptions concerning pension and other postretirement benefit plans involve judgments that are inherently forward-looking. There can be no assurance that future loan losses will be limited to the amounts estimated. All of the information concerning interest rate sensitivity is forward-looking. The future effect of changes in the financial and credit markets and the national and regional economies on the banking industry, generally, and on us, specifically, are also inherently uncertain.

Forward-looking statements are based upon current beliefs and expectations and involve substantial risks and uncertainties that could cause actual results to differ materially from those expressed or implied by such forward-looking statements. Accordingly, such statements are not guarantees of future performance and involve certain risks, uncertainties and assumptions ("risk factors") that are difficult to predict with regard to timing, extent, likelihood and degree of occurrence. Therefore, actual results and outcomes may materially differ from what may be expressed or forecasted in such forward-looking statements. We undertake no obligation to update, amend or clarify forward-looking statements, whether as a result of new information, future events or otherwise. Risk factors include, without limitation:

- our ability to attract and retain new commercial lenders and other bankers as well as key operations staff in light of competition for experienced employees in the banking industry;
- our ability to grow deposits while reducing the number of physical branches that we operate;
- negative reactions to the branch closures by our customers, employees and other counterparties;
- economic conditions (both generally and in our markets) may be less favorable than expected, which could result in, among other things, a deterioration in credit quality, a reduction in demand for credit and a decline in real estate values;
- a general decline in the real estate and lending markets, particularly in our market areas, could negatively affect our financial results;
- increased cybersecurity risk, including potential network breaches, business disruptions, or financial losses;
- current or future restrictions or conditions imposed by our regulators on our operations may make it more difficult for us to achieve our goals;
- legislative or regulatory changes, including changes in accounting standards and compliance requirements, may adversely affect us;
- changes in the interest rate environment may reduce margins or the volumes or values of the loans we make or have acquired;
- economic, governmental, or other factors may prevent the projected population, residential, and commercial growth in the markets in which we operates; and
- operational and regulatory challenges associated with our information technology systems and policies and procedures in light of our rapid growth and pending system conversion in 2018.

In addition, risk factors include, but are not limited to, the risk factors described in Item 1A of our Annual Report on Form 10-K for the year ended December 31, 2017. These and other factors are representative of the risk factors that may emerge and could cause a difference between an ultimate actual outcome and a preceding forward-looking statement.

Part I. Financial Information

Item 1. Financial Statements

Chemical Financial Corporation
Consolidated Statements of Financial Position

(Dollars in thousands, except per share data)	March 31, 2018	December 31, 2017
	(Unaudited)	
Assets		
Cash and cash equivalents:		
Cash and cash due from banks	\$ 174,173	\$ 226,003
Interest-bearing deposits with the Federal Reserve Bank and other banks	379,320	229,988
Total cash and cash equivalents	553,493	455,991
Investment securities:		
Carried at fair value	2,297,123	1,963,546
Held-to-maturity, at amortized cost (fair value of \$663,621 and \$662,906, respectively)	676,847	677,093
Total investment securities	2,973,970	2,640,639
Loans held-for-sale, at fair value	31,636	52,133
Loans	14,218,747	14,155,267
Allowance for loan losses	(94,762)	(91,887)
Net loans	14,123,985	14,063,380
Premises and equipment	126,251	126,896
Loan servicing rights, at fair value	68,837	63,841
Goodwill	1,134,568	1,134,568
Other intangible assets	32,833	34,271
Interest receivable and other assets	710,511	709,154
Total assets	\$ 19,756,084	\$ 19,280,873
Liabilities		
Deposits:		
Noninterest-bearing	\$ 3,801,125	\$ 3,725,779
Interest-bearing	10,166,692	9,917,024
Total deposits	13,967,817	13,642,803
Collateralized customer deposits	490,107	415,236
Short-term borrowings	2,050,000	2,000,000
Long-term borrowings	372,908	372,882
Interest payable and other liabilities	171,975	181,203
Total liabilities	17,052,807	16,612,124
Shareholders' equity		
Preferred stock, no par value:		
Authorized – 2,000,000 shares at 3/31/18 and 12/31/17, none issued	—	—
Common stock, \$1.00 par value per share:		
Authorized – 135,000,000 shares at 3/31/18 and 12/31/17		
Issued and outstanding – 71,350,127 shares at 3/31/18 and 71,207,114 shares at 12/31/17	71,350	71,207
Additional paid-in capital	2,201,803	2,203,637
Retained earnings	471,178	419,403
Accumulated other comprehensive loss	(41,054)	(25,498)
Total shareholders' equity	2,703,277	2,668,749
Total liabilities and shareholders' equity	\$ 19,756,084	\$ 19,280,873

See accompanying notes to Consolidated Financial Statements (unaudited).

Chemical Financial Corporation
Consolidated Statements of Income
(Unaudited)

(Dollars in thousands, except per share data)	Three Months Ended March 31,	
	2018	2017
Interest income		
Interest and fees on loans	\$ 156,818	\$ 132,485
Interest on investment securities:		
Taxable	12,419	4,756
Tax-exempt	5,556	4,235
Dividends on nonmarketable equity securities	1,901	621
Interest on deposits with the Federal Reserve Bank, other banks and Federal funds sold	1,240	799
Total interest income	177,934	142,896
Interest expense		
Interest on deposits	15,917	8,916
Interest on collateralized customer deposits	524	150
Interest on short-term borrowings	8,166	1,508
Interest on long-term borrowings	1,464	2,225
Total interest expense	26,071	12,799
Net interest income	151,863	130,097
Provision for loan losses	6,256	4,050
Net interest income after provision for loan losses	145,607	126,047
Noninterest income		
Service charges and fees on deposit accounts	8,463	8,004
Wealth management revenue	6,311	5,827
Other charges and fees for customer services	5,754	8,891
Net gain on sale of loans and other mortgage banking revenue	12,535	9,160
Net gain on sale of investment securities	—	90
Other	7,491	6,038
Total noninterest income	40,554	38,010
Operating expenses		
Salaries, wages and employee benefits	56,105	59,894
Occupancy	8,011	7,392
Equipment and software	7,659	8,517
Outside processing and service fees	11,332	7,511
Merger expenses	—	4,167
Other	20,251	16,715
Total operating expenses	103,358	104,196
Income before income taxes	82,803	59,861
Income tax expense	12,633	12,257
Net income	\$ 70,170	\$ 47,604
Earnings per common share:		
Basic	\$ 0.99	\$ 0.67
Diluted	\$ 0.97	\$ 0.67
Cash dividends declared per common share	\$ 0.28	\$ 0.27

See accompanying notes to Consolidated Financial Statements (unaudited).

Chemical Financial Corporation
Consolidated Statements of Comprehensive Income
(Unaudited)

(Dollars in thousands)	Three Months Ended March 31,	
	2018	2017
Net income	\$ 70,170	\$ 47,604
Other comprehensive income, net of tax:		
Unrealized holding gains (losses) on securities available-for-sale arising during the period	(27,606)	2,739
Reclassification adjustment for gains and losses on realized income	—	(90)
Tax effect	5,797	(927)
Net unrealized gains (losses) on securities available-for-sale, net of tax	(21,809)	1,722
Unrealized gains on interest rate swaps designated as cash flow hedges	7,963	—
Reclassification adjustment for losses included in net income	242	—
Tax effect	(1,723)	—
Net unrealized gains on interest rate swaps designated as cash flow hedges, net of tax	6,482	—
Adjustment for pension and other postretirement benefits	142	537
Tax effect	(30)	(188)
Net adjustment for pension and other postretirement benefits	112	349
Other comprehensive income, net of tax	(15,215)	2,071
Total comprehensive income, net of tax	\$ 54,955	\$ 49,675

See accompanying notes to Consolidated Financial Statements (unaudited).

Chemical Financial Corporation
Consolidated Statements of Changes in Shareholders' Equity
(Unaudited)

(Dollars in thousands)	Common stock	Additional paid-in capital	Retained earnings	Accumulated other comprehensive income (loss)	Total
Balances at December 31, 2016	\$ 70,599	\$ 2,210,762	\$ 340,201	\$ (40,036)	\$ 2,581,526
Cumulative effect adjustment of change in accounting policy, net of tax impact ⁽¹⁾			3,659		3,659
Comprehensive income			47,604	2,071	49,675
Cash dividends declared and paid of \$0.27 per share			(19,271)		(19,271)
Net shares issued under share-based compensation plans	518	(19,790)			(19,272)
Share-based compensation expense	1	3,733			3,734
Balances at March 31, 2017	<u>\$ 71,118</u>	<u>\$ 2,194,705</u>	<u>\$ 372,193</u>	<u>\$ (37,965)</u>	<u>\$ 2,600,051</u>
Balances at December 31, 2017	\$ 71,207	\$ 2,203,637	\$ 419,403	\$ (25,498)	\$ 2,668,749
Cumulative effect adjustment of change in accounting policy, net of tax impact ⁽²⁾			1,680	(341)	1,339
Comprehensive income			70,170	(15,215)	54,955
Cash dividends declared and paid of \$0.28 per share			(20,075)		(20,075)
Net shares issued under share-based compensation plans	143	(3,486)			(3,343)
Share-based compensation expense	—	1,652			1,652
Balances at March 31, 2018	<u>\$ 71,350</u>	<u>\$ 2,201,803</u>	<u>\$ 471,178</u>	<u>\$ (41,054)</u>	<u>\$ 2,703,277</u>

⁽¹⁾ Refer to Note 1, Basis of Presentation and Significant Accounting Policies and Note 7, Loan Servicing Rights for further details on the changes in accounting policy.

⁽²⁾ Refer to Note 1, Basis of Presentation and Significant Accounting Policies, Note 3, Investment Securities, Note 5, Other Real Estate Owned and Repossessed Assets and Note 9, Derivative Instruments and Balance Sheet Offsetting, for further details on the changes in accounting policy.

See accompanying notes to Consolidated Financial Statements (unaudited).

Chemical Financial Corporation
Consolidated Statements of Cash Flows
(Unaudited)

(Dollars in thousands)	Three Months Ended March 31,	
	2018	2017
Cash flows from operating activities		
Net income	\$ 70,170	\$ 47,604
Adjustments to reconcile net income to net cash provided by operating activities:		
Provision for loan losses	6,256	4,050
Gains on sales of loans	(1,508)	(6,120)
Proceeds from sales of loans	190,435	191,531
Loans originated for sale	(165,823)	(142,704)
Net gains on sale of investment securities	—	(90)
Net gains from sales/writedowns of other real estate and repossessed assets	(71)	(700)
Depreciation of premises and equipment	4,129	4,521
Amortization of intangible assets	1,438	1,513
Additions to loan servicing rights	(1,967)	(1,753)
Valuation change in loan servicing rights	(3,029)	1,125
Net amortization of premiums and discounts on investment securities	4,298	4,129
Share-based compensation expense	1,652	3,734
Deferred income tax (benefit) expense	(1,638)	17,948
Change in deferred tax valuation allowance	(49)	—
Net decrease (increase) in interest receivable and other assets	12,856	(29,773)
Net decrease in interest payable and other liabilities	(9,060)	(19,282)
Net cash provided by operating activities	108,089	75,733
Cash flows from investing activities		
Debt securities – available-for-sale:		
Proceeds from maturities, calls and principal reductions	66,526	60,885
Purchases	(431,670)	(102,702)
Investment securities – held-to-maturity:		
Proceeds from maturities, calls and principal reductions	8,744	9,408
Purchases	(8,835)	(33,628)
Net increase in loans	(71,952)	(290,438)
Proceeds from sales of other real estate and repossessed assets	3,351	5,734
Purchases of premises and equipment, net of disposals	(3,484)	(2,272)
Proceeds from returns of investment in equity method investments	266	113
Net cash used in investing activities	(437,054)	(352,900)
Cash flows from financing activities		
Net increase in interest- and noninterest-bearing demand deposits and savings accounts	182,108	350,763
Net increase (decrease) in time deposits	142,906	(91,538)
Net increase in collateralized customer deposits and other short-term borrowings	124,871	130,863
Repayment of long-term borrowings	—	(107,000)
Cash dividends paid	(20,075)	(19,271)
Proceeds from directors' stock plans and exercise of stock options, net of shares withheld	952	1,578
Cash paid for payroll taxes upon conversion of share-based awards	(4,295)	(20,850)
Net cash provided by financing activities	426,467	244,545
Net increase (decrease) in cash and cash equivalents	97,502	(32,622)
Cash and cash equivalents at beginning of period	455,991	474,402
Cash and cash equivalents at end of period	\$ 553,493	\$ 441,780
Supplemental disclosures of cash flow information:		
Interest paid	\$ 25,038	\$ 12,989
Income tax refunds, net of income taxes paid	(441)	(24,397)
Non-cash activities:		
Loans transferred to other real estate and repossessed assets	2,484	4,281
Net transfer of loans held-for-sale to loans held- for-investment	(2,607)	—

See accompanying notes to Consolidated Financial Statements (unaudited).

Chemical Financial Corporation
Notes to Consolidated Financial Statements (Unaudited)
March 31, 2018

Note 1: Basis of Presentation and Significant Accounting Policies

Nature of Operations

Chemical Financial Corporation ("Corporation" or "Chemical") operates in a single operating segment — commercial banking. The Corporation is a financial holding company, headquartered in Midland, Michigan, that operates through one commercial bank, Chemical Bank. Chemical Bank operates within Michigan, Northeast Ohio and Northern Indiana as a Michigan state-chartered commercial bank. Chemical Bank operates through an internal organizational structure of seven regional banking units and offers a full range of traditional banking and fiduciary products and services to the residents and business customers in the Corporation's geographical market areas. The products and services offered by the regional banking units, through branch banking offices, are generally consistent throughout the Corporation, as is the pricing of those products and services. The marketing of products and services throughout the Corporation's regional banking units is generally uniform, as many of the markets served by the regional banking units overlap. The distribution of products and services is generally uniform throughout the Corporation's regional banking units and is achieved primarily through retail branch banking offices, automated teller machines and electronically accessed banking products.

The Corporation's primary sources of revenue are interest from its loan products and investment securities, service charges and fees from customer deposit accounts, wealth management revenue and net gain on sale of loans and other mortgage banking revenue.

Basis of Presentation and Principles of Consolidation

The accompanying unaudited Consolidated Financial Statements of the Corporation and its subsidiaries have been prepared in accordance with United States ("U.S.") generally accepted accounting principles ("GAAP") for interim financial information and with instructions to Form 10-Q, Securities and Exchange Commission ("SEC") rules and interpretive releases and prevailing practices within the banking industry and Rule 10-01 of Regulation S-X. Accordingly, the interim Consolidated Financial Statements do not include all of the information and footnotes required by GAAP for complete financial statements and should be read in conjunction with the Corporation's Consolidated Financial Statements and footnotes thereto included in the Corporation's Annual Report on Form 10-K for the year ended December 31, 2017. In the opinion of management, the accompanying unaudited interim Consolidated Financial Statements contain all adjustments believed necessary to present fairly the financial condition and results of operations of the Corporation for the periods presented. All significant income and expenses are recorded on the accrual basis. Intercompany accounts and transactions have been eliminated in preparing the Consolidated Financial Statements. Operating results for the three months ended March 31, 2018 are not necessarily indicative of the results that may be expected for the year ending December 31, 2018.

Use of Estimates

Management makes estimates and assumptions that affect the amounts reported in the Consolidated Financial Statements and accompanying footnotes. Estimates that are particularly susceptible to significant change include the determination of the allowance for loan losses, expected cash flows from acquired loans, income taxes and the valuation of loan servicing rights. Actual results could differ from these estimates.

Reclassifications

Certain amounts appearing in the Consolidated Financial Statements and notes thereto for prior periods have been reclassified to conform to the current presentation. The reclassifications had no effect on net income or shareholders' equity as previously reported, except in case of the cumulative effect adjustment of change in accounting policy as noted.

Recently Adopted Accounting Policy

Effective January 1, 2017, the Corporation elected to account for all loan servicing rights ("LSRs") previously accounted for under the lower of cost or fair value method under the fair value method. The guidance in Accounting Standards Codification Subtopic 860-50, "Transfers and Servicing-Servicing Assets and Liabilities" provides that an entity may make an irrevocable decision to subsequently measure a class of servicing assets and servicing liabilities at fair value at the beginning of any fiscal year. The guidance allows for the Corporation to apply this election prospectively to all new and existing servicing assets and

Chemical Financial Corporation
Notes to Consolidated Financial Statements (Unaudited)
March 31, 2018

servicing liabilities. Management believes this election will provide more comparable results to peers as many of those within our industry group account for loan servicing rights under the fair value method. The change in accounting policy in the first quarter of 2017 resulted in a cumulative adjustment to increase retained earnings in the amount of \$3.7 million, net of taxes.

Recently Adopted Accounting Principles

Standard	Description	Adoption Date	Effect on the financial statements
ASU No. 2017-08, Receivables-Nonrefundable Fees and Other Costs (Subtopic 310-20): Premium Amortization on Purchased Callable Debt Securities ("ASU 2017-08")	ASU 2017-08 reduces the amortization period for certain callable debt securities that are held at a premium to the earliest call date. Debt securities held at a discount will continue to be amortized as a yield adjustment over the life of the instrument.	April 1, 2017	The early adoption in the second quarter of 2017 did not have a material impact on the Consolidated Financial Statements.
ASU No. 2018-02, Income Statement - Reporting Comprehensive Income (Topic 220): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income ("ASU 2018-02")	ASU 2018-02 required deferred tax liabilities and assets to be adjusted for the effect of a change in tax laws or rate with the effect included in income from continuing operations in the reporting period that includes the enactment date.	Fourth quarter of 2017	The early adoption in the fourth quarter of 2017 resulted in a \$4.5 million reclassification from accumulated other comprehensive income to retained earnings related to the income tax effects of the Tax Cuts and Jobs Act.
ASU No. 2014-09 - Revenue from Contracts with Customers (Topic 606) ASU No. 2016-08 - Principal versus Agent Considerations ASU No. 2016-10 - Identifying Performance Obligations and Licensing ASU No. 2016-12, Narrow-scope Improvements and Practical Expedients ("Updates to Topic 606")	The core principle of the Updates to Topic 606 is that an entity recognizes revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. The standard is intended to clarify and converge the revenue recognition principles under GAAP and International Financial Reporting Standards and to streamline revenue recognition requirements in addition to expanding required disclosures.	January 1, 2018 modified	Approximately 79% of the Corporation's revenue is derived from net interest income, which is excluded from the scope of the guidance. Following detailed review of the Corporation's revenue streams not derived from net interest income on financial assets and liabilities, management identified the recognition of gains from other real estate sales financed by the Corporation to be in the scope of this amended guidance. Effective January 1, 2018, revenue for new seller financed other real estate owned sales will be determined according to the Updates to Topic 606. If all qualifications are met, gains associated with the sales will be recognized into income at the time of closing and therefore not deferred. The cumulative effect of the Updates to Topic 606 increased retained earnings by \$1.2 million upon adoption. The comparative information has not been restated and continues to be reported under the accounting standards in effect for those periods. Additional required disclosures have been included in Note 13, Revenue from Contracts with Customers. The adoption is not expected to have a material impact on the Corporation's net income on an ongoing basis. Refer to Note 5, Other Real Estate Owned, for further detail.

Chemical Financial Corporation
Notes to Consolidated Financial Statements (Unaudited)
March 31, 2018

Standard	Description	Adoption Date	Effect on the financial statements
ASU No. 2016-01 - Financial Instruments - Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities ("ASU 2016-01")	ASU 2016-01 amended current guidance by: (i) requiring equity investments with January 1, 2018 steadily determinable fair values to be measured at fair value with changes in fair value using a modified recognized in net income, (ii) allowing an entity to measure equity investments that do retrospective not have readily determinable fair values at either fair value or cost minus impairment, approach with changes in measurement is recognized in net income, (iii) simplifying impairment the exception of assessment of equity investments without readily determinable fair values by requiring disclosure a qualitative assessment to identify impairment, (iv) eliminating the requirement to requirements disclose the methods and assumptions used to estimate the fair value of financial which are instruments measured at amortized cost; (v) requiring the use of exit price notion when adopted on a measuring the fair value of financial instruments; (vi) requiring recognition of changes prospective basis in the fair value related to instrument-specific credit risk in other comprehensive income if financial liabilities are measured at fair value, (vii) requiring separate presentation in financial statements by measurement category, and (viii) clarifying that an entity should evaluate the need for valuation allowance on deferred tax assets related to available-for-sale securities in combination with the entity's other deferred tax assets.	January 1, 2018	The Corporation identified available-for-sale investment securities qualifying as equity investments in the securities portfolio. The adoption resulted in recognizing the unrealized fair value related to the identified equity investments as a cumulative effect to retained earnings of \$0.3 million. In addition, the Corporation has updated disclosures related to the fair value of financial instruments to the use of the exit price notion. Refer to Note 2, Fair Value Measurements and Note 3, Investment Securities, for further detail.
ASU No. 2016-15, Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts as Cash Payments ("ASU 2016-15")	2016-15 was issued to reduce diversity in practice and prevent financial statement January 1, 2018 restatements. Cash flow issues include: debt prepayment or debt extinguishment using costs, settlement of insurance claims, proceeds from the settlement of corporate- retrospective owned and bank-owned life insurance policies, distribution received from equity application method investees, beneficial interests in securitization transactions and separately identifiable cash flows and application of the predominance principle.	January 1, 2018	The adoption did not have a material effect on the presentation of our Consolidated Statements of Cash Flows, as current policies are either already in-line with the clarifications in the updated guidance, or the related cash flows are not material.
ASU No. 2017-07 - Compensation - Retirement Benefits (Topic 715): Improving the Presentation of Net Periodic Pension Cost ("ASU 2017-07")	ASU 2017-07 improves the income statement presentation of net periodic benefit cost for an entity's pension and postretirement plans. The standard requires employers to using the disaggregate current service costs from other components of net benefit cost and retrospective present it with other compensation cost. Additionally net benefit cost becomes eligible transition for capitalization.	January 1, 2018 method	The adoption resulted in a reclassification of certain net benefit cost components from salaries, wages and employee benefits expense to other expenses on the Consolidated Statements of Income, which was immaterial. Refer to Note 14, Pension and Other Postretirement Benefit Plans, for further detail.
ASU No. 2017-12, Derivatives and Hedging (Topic 815): Targeted Improvement to Account for Hedging Activities ("ASU 2017-12")	ASU 2017-12 eliminates the separate measurement of hedge ineffectiveness as well as the benchmark interest rate concept when applying hedge risk to variable-rate instruments. It also allows a company to elect to perform subsequent effectiveness assessments qualitatively if the initial quantitative hedge effectiveness assessment is found to be highly effective.	January 1, 2018	The early adoption resulted in a cumulative adjustment from opening retained earnings to accumulated other comprehensive income of \$3 thousand, which represented all previously recognized hedge ineffectiveness.

Effective January 1, 2018, the Corporation also adopted the following standards, none of which had a material impact to the Corporation's financial statements or financial statement disclosures:

Standard	Effective Date
2016-04 Liabilities—Extinguishments of Liabilities (Subtopic 405-20): Recognition of Breakage for Certain Prepaid Stored-Value Products	January 1, 2018
2016-16 Income Taxes (Topic 740): Intra-Entity Transfers of Assets Other Than Inventory	January 1, 2018
2016-18 Statement of Cash Flows (Topic 230): Restricted Cash	January 1, 2018
2017-01 Business Combinations (Topic 805): Clarifying the Definition of a Business	January 1, 2018
2017-05 Other Income - Gains and Losses from the Derecognition of Nonfinancial Assets	January 1, 2018
2017-09 Compensation-Stock Compensation (Topic 718): Scope of Modification Accounting	January 1, 2018
2018-03 Technical Corrections and Improvements to Financial Instruments—Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities	January 1, 2018

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Note 2: Fair Value Measurements

Fair value, as defined by GAAP, is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants. A fair value measurement assumes that the transaction to sell the asset or transfer the liability occurs in the principal market for the asset or liability or, in the absence of a principal market, the most advantageous market for the asset or liability. The price in the principal (or most advantageous) market used to measure the fair value of the asset or liability is not adjusted for transaction costs. An orderly transaction is a transaction that assumes exposure to the market for a period prior to the measurement date to allow for market activities that are usual and customary for transactions involving such assets and liabilities; it is not a forced transaction. Market participants are buyers and sellers in the principal market that are (i) independent, (ii) knowledgeable, (iii) able to transact and (iv) willing to transact.

The Corporation utilizes fair value measurements to record fair value adjustments to certain assets and liabilities and to determine fair value disclosures. Investment securities — available-for-sale, loans held-for-sale, loan servicing rights and derivatives are recorded at fair value on a recurring basis. Additionally, the Corporation may be required to record other assets, such as impaired loans, goodwill, other intangible assets, other real estate and repossessed assets, at fair value on a nonrecurring basis. These nonrecurring fair value adjustments typically involve the application of lower of cost or market accounting or write-downs of individual assets.

The Corporation determines the fair value of its financial instruments based on a three-level hierarchy established by GAAP. The classification and disclosure of assets and liabilities within the hierarchy is based on whether the inputs to the valuation methodology used for measurement are observable or unobservable. Observable inputs reflect market-derived or market-based information obtained from independent sources, while unobservable inputs reflect management's estimates about market data. The three levels of inputs that may be used to measure fair value within the GAAP hierarchy are as follows:

- Level 1 Valuation is based upon quoted prices for identical instruments traded in active markets. Level 1 valuation for the Corporation includes U.S. Treasury securities that are traded by dealers or brokers in active over-the-counter markets. Valuations are obtained from a third-party pricing service for these investment securities.
- Level 2 Valuation is based upon quoted prices for similar instruments in active markets, quoted prices for identical or similar instruments in markets that are not active, and model-based valuation techniques for which all significant assumptions are observable in the market. Level 2 valuations for the Corporation include government sponsored agency securities, including securities issued by the Federal Home Loan Bank, Federal Home Loan Mortgage Corporation, Federal National Mortgage Association, Federal Farm Credit Bank, Student Loan Marketing Corporation and the Small Business Administration, securities issued by certain state and political subdivisions, residential mortgage-backed securities, collateralized mortgage obligations, corporate bonds, preferred stock and available-for-sale trust preferred securities. Valuations are obtained from a third-party pricing service for these investment securities. Additionally included in Level 2 valuations are loans held for sale and derivative assets and liabilities.
- Level 3 Valuation is generated from model-based techniques that use at least one significant assumption not observable in the market. These unobservable assumptions reflect estimates of assumptions that market participants would use in pricing the asset or liability. Valuation techniques include use of option pricing models, discounted cash flow models, yield curves and similar techniques. The determination of fair value requires management judgment or estimation and generally is corroborated by external data, which includes third-party pricing services. Level 3 valuations for the Corporation include securities issued by certain state and political subdivisions, held-to-maturity trust preferred investment securities, impaired loans, goodwill, core deposit intangible assets, non-compete intangible assets, LSRs and other real estate and repossessed assets.

A description of the valuation methodologies used for instruments measured at fair value, as well as the general classification of such instruments pursuant to the valuation hierarchy, is set forth below. These valuation methodologies were applied to all of the Corporation's financial assets and financial liabilities carried at fair value and all financial instruments disclosed at fair value. Transfers of assets or liabilities between levels of the fair value hierarchy are recognized at the beginning of the reporting period, when applicable.

In general, fair value is based upon quoted market prices, where available. If quoted market prices are not available, fair value is based upon third-party pricing services when available. Fair value may also be based on internally developed models that primarily use, as inputs, observable market-based parameters. Valuation adjustments may be required to record financial instruments

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at fair value. Any such valuation adjustments are applied consistently over time. The Corporation's valuation methodologies may produce a fair value calculation that may not be indicative of net realizable value or reflective of future fair values.

While management believes the Corporation's valuation methodologies are appropriate and consistent with other market participants, the use of different methodologies or assumptions to determine the fair value of certain financial instruments could result in a different estimate of fair value at the reporting date. Furthermore, the fair value amounts may change significantly after the date of the statement of financial position from the amounts reported in the Consolidated Financial Statements and related notes.

Assets and Liabilities Recorded at Fair Value on a Recurring Basis

Investment securities: Investment securities classified as available-for-sale are recorded at fair value on a recurring basis. Fair value measurement is based upon quoted prices, if available. If quoted prices are not available, fair values are generally measured using independent pricing models or other model-based valuation techniques that include market inputs, such as benchmark yields, reported trades, broker dealer quotes, issuer spreads, two-sided markets, benchmark securities, bids, offers, reference data and industry and economic events.

Loans held-for-sale: The Corporation has elected the fair value option for all loans held-for-sale. Accordingly, loans held-for-sale are recorded at fair value on a recurring basis. The fair values of loans held-for-sale are based on the market price for similar loans sold in the secondary market, and therefore, are classified as Level 2 valuations.

Loan servicing rights: The Corporation has elected to account for all LSRs under the fair value measurement method. A third party valuation model is used to determine the fair value at the end of each reporting period utilizing a discounted cash flow analysis using interest rates and prepayment speed assumptions currently quoted for comparable instruments and a discount rate determined by management. Because of the nature of the valuation inputs, the Corporation classifies loan servicing rights as Level 3. Refer to Note 7, "Loan Servicing Rights," for the assumptions included in the valuation of loan servicing rights.

Derivatives: The Corporation enters into interest rate lock commitments with prospective borrowers to be sold into the secondary market and forward commitments for the future delivery of mortgage loans to third party investors, which are carried at fair value on a recurring basis. The fair value of these commitments is based on the fair value of related mortgage loans determined using observable market data. Interest rate lock commitments are adjusted for expectations of exercise and funding. This adjustment is not considered to be a material input. The Corporation classifies interest rate lock commitments and forward contracts related to mortgage loans to be delivered for sale as recurring Level 2.

Derivative instruments held or issued for risk management or customer-initiated activities are traded in over-the counter markets where quoted market prices are not readily available. Fair value for over-the-counter derivative instruments is measured on a recurring basis using third party models that use primarily market observable inputs, such as yield curves and option volatilities. The fair value for these derivatives may include a credit valuation adjustment that is determined by applying a credit spread for the counterparty or the Corporation, as appropriate, to the total expected exposure of the derivative after considering collateral and other master netting arrangements. These adjustments, which are considered Level 3 inputs, are based on estimates of current credit spreads to evaluate the likelihood of default. The Corporation assessed the significance of the impact of the credit valuation adjustments on the overall valuation of its derivative positions at both March 31, 2018 and December 31, 2017 and it was determined that the credit valuation adjustments were not significant to the overall valuation of its derivatives. As a result, the Corporation classifies its risk management interest rate swaps designated as cash flow hedges and customer-initiated derivatives valuations in Level 2 of the fair value hierarchy.

Written and purchased option derivatives consist of instruments to facilitate an equity-linked time deposit product (the "Power Equity CD"). The Power Equity CD is a time deposit that provides the purchaser a guaranteed return of principal at maturity plus a potential equity return, while the Corporation receives a known stream of funds based on equity returns. The written and purchased options are mirror derivative instruments which are carried at fair value on the Consolidated Statements of Financial Position. Fair value measurements for the Power Equity CD are determined using quoted prices of underlying stocks, along with other terms and features of the derivative instrument. As a result, the Power Equity CD derivatives are classified as Level 2 valuations.

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Disclosure of Recurring Basis Fair Value Measurements

For assets and liabilities measured at fair value on a recurring basis, quantitative disclosures about the fair value measurements for each major category of assets and liabilities follow:

(Dollars in thousands)	Quoted Prices In Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
March 31, 2018				
Investment securities – available-for-sale:				
Government sponsored agencies	\$ —	\$ 193,018	\$ —	\$ 193,018
State and political subdivisions	—	410,401	—	410,401
Residential mortgage-backed securities	—	142,734	—	142,734
Collateralized mortgage obligations	—	1,277,976	—	1,277,976
Corporate bonds	—	234,916	—	234,916
Trust preferred securities	—	36,271	—	36,271
Preferred stock	—	1,807	—	1,807
Total investment securities – available-for-sale	—	2,297,123	—	2,297,123
Loans held-for-sale	—	31,636	—	31,636
Loan servicing rights	—	—	68,837	68,837
Derivative assets:				
Customer-initiated derivatives	—	11,619	—	11,619
Interest rate lock commitments	—	1,774	—	1,774
Power Equity CD	—	1,501	—	1,501
Risk management derivatives	—	14,104	—	14,104
Total derivatives	—	28,998	—	28,998
Total assets at fair value	\$ —	\$ 2,357,757	\$ 68,837	\$ 2,426,594
Derivative liabilities:				
Customer-initiated derivatives	\$ —	\$ 12,055	\$ —	\$ 12,055
Forward contracts related to mortgage loans to be delivered for sale	—	404	—	404
Power Equity CD	—	1,501	—	1,501
Total derivatives	—	13,960	—	13,960
Total liabilities at fair value	\$ —	\$ 13,960	\$ —	\$ 13,960
December 31, 2017				
Investment securities – available-for-sale:				
Government sponsored agencies	\$ —	\$ 202,916	\$ —	\$ 202,916
State and political subdivisions	—	345,970	—	345,970
Residential mortgage-backed securities	—	150,131	—	150,131
Collateralized mortgage obligations	—	1,033,845	—	1,033,845
Corporate bonds	—	192,794	—	192,794
Trust preferred securities	—	36,066	—	36,066
Preferred stock	—	1,824	—	1,824
Total investment securities – available-for-sale	—	1,963,546	—	1,963,546
Loans held-for-sale	—	52,133	—	52,133
Loan servicing rights	—	—	63,841	63,841
Derivative assets:				
Customer-initiated derivatives	—	9,376	—	9,376
Interest rate lock commitments	—	1,222	—	1,222
Power Equity CD	—	2,184	—	2,184
Risk management derivatives	—	5,899	—	5,899
Total derivatives	—	18,681	—	18,681
Total assets at fair value	\$ —	\$ 2,034,360	\$ 63,841	\$ 2,098,201
Derivative liabilities:				
Customer-initiated derivatives	\$ —	\$ 10,139	\$ —	\$ 10,139
Forward contracts related to mortgage loans to be delivered for sale	—	34	—	34

Power Equity CD	—	2,184	—	2,184
Total derivatives	—	12,357	—	12,357
Total liabilities at fair value	\$ —	\$ 12,357	\$ —	\$ 12,357

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There were no transfers between levels within the fair value hierarchy during the three months ended March 31, 2018.

The following table summarizes the changes in Level 3 assets measured at fair value on a recurring basis.

(Dollars in thousands)	Three Months Ended March 31, 2018	Three Months Ended March 31, 2017
	Loan servicing rights	
Balance, beginning of period	\$ 63,841	\$ 48,085
Transfer in based on new accounting policy election ⁽¹⁾	—	15,891
Gains (losses):		
Recorded in earnings (realized):		
Recorded in "Net gain on sale of loans and other mortgage banking revenue"	3,029	(1,125)
New originations	1,967	1,753
Balance, end of period	\$ 68,837	\$ 64,604

⁽¹⁾ Refer to Note 1, Basis of Presentation and Significant Accounting Policies, for further details.

The Corporation has elected the fair value option for loans held-for-sale. These loans are intended for sale and the Corporation believes that the fair value is the best indicator of the resolution of these loans. Interest income is recorded based on the contractual terms of the loans in accordance with the Corporation's policy on loans held for investment in "Interest and fees on loans" in the Consolidated Statements of Income. There were no loans held-for-sale on nonaccrual status or 90 days past due and on accrual status as of March 31, 2018 and December 31, 2017.

The aggregate fair value, contractual balance (including accrued interest), and gain or loss for loans held-for-sale carried at fair value option was as follows:

(Dollars in thousands)	March 31, 2018	December 31, 2017
Aggregate fair value	\$ 31,636	\$ 52,133
Contractual balance	30,800	50,597
Unrealized gain (loss)	836	1,536

The total amount of gains (losses) from loans held-for-sale included in the Consolidated Statements of Income were as follows:

(Dollars in thousands)	Three Months Ended March 31,	
	2018	2017
Interest income ⁽¹⁾	\$ 376	\$ 551
Change in fair value ⁽²⁾	(700)	601
Net gain on sales of loans ⁽²⁾	1,508	6,120
Total included in earnings	\$ 1,184	\$ 7,272

⁽¹⁾ Included in "Interest and fees on loans" in the Consolidated Statements of Income.

⁽²⁾ Included in "Net gain on sale of loans and other mortgage banking revenue" in the Consolidated Statements of Income.

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Assets and Liabilities Recorded at Fair Value on a Nonrecurring Basis

Investment securities: Investment securities classified as held to maturity are recorded at fair value if the value is below amortized cost and the Corporation has determined that such unrealized loss is a other-than-temporary impairment. Fair value measurement is based upon quoted prices, if available. If quoted prices are not available, fair values are generally measured using independent pricing models or other model-based valuation techniques that include market inputs, such as benchmark yields, reported trades, broker dealer quotes, issuer spreads, two-sided markets, benchmark securities, bids, offers, reference data and industry and economic events.

Impaired Loans: The Corporation does not record loans held for investment at fair value on a recurring basis. However, from time to time, a loan is considered impaired and an allocation of the allowance (valuation allowance) may be established or a portion of the loan is charged off. Loans for which it is probable that payment of interest and principal will not be made in accordance with the contractual terms of the loan agreement are considered impaired. The fair value of impaired loans is estimated using one of several methods, including the loan's observable market price, the fair value of the collateral or the present value of the expected future cash flows discounted at the loan's effective interest rate. Those impaired loans not requiring a valuation allowance represent loans for which the fair value of the expected repayments or collateral exceed the remaining carrying amount of such loans. Impaired loans where a valuation allowance is established or a portion of the loan is charged off based on the fair value of collateral are subject to nonrecurring fair value measurement and require classification in the fair value hierarchy. The Corporation records impaired loans as Level 3 valuations as there is generally no observable market price or management determines the fair value of the collateral is further impaired below the independent appraised value. When management determines the fair value of the collateral is further impaired below appraised value, discounts ranging between 20% and 30% of the appraised value are used depending on the nature of the collateral and the age of the most recent appraisal.

Goodwill: Goodwill is subject to impairment testing on an annual basis. The assessment of goodwill for impairment requires a significant degree of judgment. In the event the assessment indicates that it is more-likely-than-not that the fair value is less than the carrying value, the asset is considered impaired and recorded at fair value. Goodwill that is impaired and subject to nonrecurring fair value measurements is a Level 3 valuation. At March 31, 2018 and December 31, 2017, no goodwill was impaired.

Other intangible assets: Other intangible assets consist of core deposit intangible assets and non-compete intangible assets. These items are recorded at fair value when initially recorded. Subsequently, core deposit intangible assets and non-compete intangible assets are amortized primarily on an accelerated basis over periods ranging from ten to fifteen years for core deposit intangible assets and one year for non-compete intangible assets and are subject to impairment testing whenever events or changes in circumstances indicate that the carrying amount exceeds the fair value of the asset. If core deposit intangible asset or non-compete intangible asset impairment is identified, the Corporation classifies impaired core deposit intangible assets and impaired non-compete intangible assets subject to nonrecurring fair value measurements as Level 3 valuations. At March 31, 2018 and December 31, 2017, there was no impairment identified for core deposit intangible assets or non-compete intangible assets.

Other real estate owned and repossessed assets: The carrying amounts for other real estate and repossessed assets are reported in the Consolidated Statements of Financial Position under "Interest receivable and other assets." Other real estate and repossessed assets include real estate and other types of assets repossessed by the Corporation. Other real estate and repossessed assets are recorded at the lower of cost or fair value upon the transfer of a loan to other real estate and repossessed assets and, subsequently, continue to be measured and carried at the lower of cost or fair value. Fair value is based upon independent market prices, appraised values of the property or management's estimation of the value of the property. The Corporation records other real estate and repossessed assets as Level 3 valuations as management generally determines that the fair value of the property is impaired below the appraised value. When management determines the fair value of the property is further impaired below appraised value, discounts ranging between 20% and 30% of the appraised value are used depending on the nature of the property and the age of the most recent appraisal.

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Disclosure of Nonrecurring Basis Fair Value Measurements

For assets measured at fair value on a nonrecurring basis, quantitative disclosures about fair value measurements for each major category of assets follows:

(Dollars in thousands)	Significant Unobservable Inputs (Level 3)	Total
March 31, 2018		
Impaired loans	\$ 54,060	\$ 54,060
Other real estate and repossessed assets	2,769	2,769
Total	\$ 56,829	\$ 56,829
December 31, 2017		
Impaired loans	\$ 70,619	\$ 70,619
Other real estate and repossessed assets	2,899	2,899
Total	\$ 73,518	\$ 73,518

There were no liabilities recorded at fair value on a nonrecurring basis at both March 31, 2018 and December 31, 2017.

The following table presents additional information about the significant unobservable inputs used in the fair value measurement of financial assets measured on a nonrecurring basis that were categorized within the Level 3 of the fair value hierarchy:

(Dollars in thousands)	Fair Value at March 31, 2018	Valuation Technique	Significant Unobservable Inputs	Range
Impaired loans	\$ 54,060	Appraisal of collateral	Discount for type of collateral and age of appraisal	20%-30%
Other real estate and repossessed assets	2,769	Appraisal of property	Discount for type of property and age of appraisal	20%-30%

Disclosures about Fair Value of Financial Instruments

GAAP requires disclosures about the estimated fair value of the Corporation's financial instruments, including those financial assets and liabilities that are not measured and reported at fair value on a recurring or nonrecurring basis. However, the method of estimating fair value for certain financial instruments, such as loans, that are not required to be measured on a recurring or nonrecurring basis, as prescribed by FASB ASC Topic 820, "Fair Value Measurement", does not incorporate the exit-price concept of fair value. The Corporation utilized the fair value hierarchy in computing the fair values of its financial instruments. In cases where quoted market prices were not available, the Corporation employed present value methods using unobservable inputs requiring management's judgment to estimate the fair values of its financial instruments, which are considered Level 3 valuations. These Level 3 valuations are affected by the assumptions made and, accordingly, do not necessarily indicate amounts that could be realized in a current market exchange. It is also the Corporation's general practice and intent to hold the majority of its financial instruments until maturity and, therefore, the Corporation does not expect to realize the estimated amounts disclosed.

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A summary of carrying amounts and estimated fair values of the Corporation's financial instruments not recorded at fair value in their entirety on a recurring basis on the Consolidated Statements of Financial Position are disclosed in the table below.

(Dollars in thousands)	Level in Fair Value Measurement Hierarchy	March 31, 2018		December 31, 2017	
		Carrying Amount	Fair Value	Carrying Amount	Fair Value
Financial assets:					
Investment securities:					
Held-to-maturity	Level 2	\$ 676,347	\$ 663,196	\$ 676,593	\$ 662,516
Held-to-maturity	Level 3	500	425	500	390
Net loans ⁽¹⁾	Level 3	14,123,985	13,755,579	14,063,380	14,114,545
Financial liabilities:					
Time deposits	Level 2	\$ 3,360,113	\$ 3,327,989	\$ 3,217,207	\$ 3,225,847
Collateralized customer deposits	Level 2	490,107	488,683	415,236	415,236
Short-term borrowings	Level 2	2,050,000	2,049,162	2,000,000	1,999,137
Long-term borrowings	Level 2	372,908	368,915	372,882	367,984

⁽¹⁾ Included \$54.1 million and \$70.6 million of impaired loans recorded at fair value on a nonrecurring basis at March 31, 2018 and December 31, 2017, respectively.

The short-term nature of certain assets and liabilities result in their carrying value approximating fair value. These include cash and cash equivalents, nonmarketable equity securities, interest receivable, bank owned life insurance, deposits without defined maturities and interest payable.

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Note 3: Investment Securities

The following is a summary of the amortized cost and fair value of investment securities carried at fair value and investment securities held-to-maturity at March 31, 2018 and December 31, 2017:

(Dollars in thousands)	Investment Securities Carried at Fair Value			
	Amortized Cost	Unrealized Gains ⁽¹⁾	Unrealized Losses ⁽¹⁾	Fair Value
March 31, 2018				
<u>Debt securities</u>				
Government sponsored agencies	\$ 194,256	\$ 436	\$ 1,674	\$ 193,018
State and political subdivisions	421,564	183	11,346	410,401
Residential mortgage-backed securities	146,736	5	4,007	142,734
Collateralized mortgage obligations	1,300,250	156	22,430	1,277,976
Corporate bonds	238,717	777	4,578	234,916
Trust preferred securities	34,934	1,369	32	36,271
Total debt securities available-for-sale	2,336,457	2,926	44,067	2,295,316
<u>Equity securities</u>				
Preferred stock	1,389	418	—	1,807
Total equity securities	1,389	418	—	1,807
Total	\$ 2,337,846	\$ 3,344	\$ 44,067	\$ 2,297,123
December 31, 2017				
<u>Debt securities</u>				
Government sponsored agencies	\$ 203,099	\$ 765	\$ 948	\$ 202,916
State and political subdivisions	350,088	310	4,428	345,970
Residential mortgage-backed securities	151,752	5	1,626	150,131
Collateralized mortgage obligations	1,042,240	89	8,484	1,033,845
Corporate bonds	193,230	1,156	1,592	192,794
Trust preferred securities	34,848	1,280	62	36,066
Total debt securities available-for-sale	1,975,257	3,605	17,140	1,961,722
<u>Equity securities</u>				
Preferred stock	1,389	435	—	1,824
Total equity securities	1,389	435	—	1,824
Total	\$ 1,976,646	\$ 4,040	\$ 17,140	\$ 1,963,546

(1) The unrealized gain/loss for equity investment securities formerly in the available-for-sale category was recorded into other comprehensive income prior to January 1, 2018. Following the adoption of ASU No. 2016-01 as of January 1, 2018, the unrealized gain/loss for equity investment securities carried at fair value is recorded to net income and the unrealized gain/loss for available-for-sale debt securities continues to be recorded into other comprehensive income.

(Dollars in thousands)	Investment Securities Held-to-Maturity			
	Amortized Cost	Unrealized Gains	Unrealized Losses	Fair Value
March 31, 2018				
State and political subdivisions	\$ 676,347	\$ 2,183	\$ 15,334	\$ 663,196
Trust preferred securities	500	—	75	425
Total	\$ 676,847	\$ 2,183	\$ 15,409	\$ 663,621
December 31, 2017				
State and political subdivisions	\$ 676,593	\$ 3,856	\$ 17,933	\$ 662,516
Trust preferred securities	500	—	110	390
Total	\$ 677,093	\$ 3,856	\$ 18,043	\$ 662,906

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Investment securities are classified at the time they are acquired as either available-for-sale, held-to-maturity or measured at fair value based upon various factors, including asset/liability management strategies, liquidity and profitability objectives and regulatory requirements. Debt securities classified as available-for-sale and equity securities are carried at fair value. Investment securities carried at fair value may be sold prior to maturity based upon asset/liability management decisions. Unrealized gains or losses on available-for-sale debt securities are recorded as part of accumulated other comprehensive income in stockholders' equity. Unrealized gains or losses on equity securities were recorded as part of accumulated other comprehensive income in stockholders' equity through December 31, 2017. Effective January 1, 2018, the amendments within ASU 2016-01, require that equity investments be measured at fair value with changes in fair value recognized in net income. At January 1, 2018, the Corporation's equity securities consisted of \$1.8 million in preferred stocks. The Corporation recognized a cumulative effect adjustment in the amount of \$344 thousand as of January 1, 2018 to reclassify the fair value position into retained earnings. Beginning January 1, 2018 the fair value changes on equity securities will be recognized in net income, rather than in accumulated other comprehensive income. As a result, there may be greater volatility in earnings each reporting period related to fair value changes. Held-to-maturity securities are carried at amortized cost, adjusted for amortization of premiums or accretion of discounts.

The majority of the Corporation's residential mortgage-backed securities and collateralized mortgage obligations are backed by a U.S. government agency (Government National Mortgage Association) or a government sponsored enterprise (Federal Home Loan Mortgage Corporation or Federal National Mortgage Association).

Proceeds from sales of securities and the associated gains and losses recorded in earnings are listed below:

(Dollars in thousands)	Three Months Ended March 31,	
	2018	2017
Proceeds	\$ —	\$ —
Gross gains	—	90
Gross losses	—	—

The following is a summary of the amortized cost and fair value of investment securities at March 31, 2018, by maturity, for both carried at fair value and held-to-maturity. The maturities of residential mortgage-backed securities and collateralized mortgage obligations are based on scheduled principal payments. The maturities of all other debt securities are based on final contractual maturity.

(Dollars in thousands)	March 31, 2018	
	Amortized Cost	Fair Value
Investment Securities Carried at Fair Value:		
Due in one year or less	\$ 21,498	\$ 21,471
Due after one year through five years	131,011	129,135
Due after five years through ten years	397,319	388,757
Due after ten years	1,786,629	1,755,953
Preferred stock	1,389	1,807
Total	\$ 2,337,846	\$ 2,297,123
Investment Securities Held-to-Maturity:		
Due in one year or less	\$ 81,162	\$ 81,076
Due after one year through five years	241,937	238,254
Due after five years through ten years	162,648	157,828
Due after ten years	191,100	186,463
Total	\$ 676,847	\$ 663,621

Securities with a carrying value of \$1.06 billion and \$937.2 million were pledged at March 31, 2018 and December 31, 2017, respectively, to secure borrowings and deposits.

At March 31, 2018 and December 31, 2017, there were no holdings of securities of any one issuer, other than the U.S. government and its agencies, in an amount greater than 10% of shareholders' equity.

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The following schedule summarizes information for debt securities both available-for-sale and held-to-maturity with gross unrealized losses at March 31, 2018 and December 31, 2017, aggregated by category and length of time that individual securities have been in a continuous unrealized loss position. As of March 31, 2018, the Corporation's securities portfolio consisted of 2,234 securities, 1,600 of which were in an unrealized loss position.

(Dollars in thousands)	Less Than 12 Months		12 Months or More		Total	
	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses
March 31, 2018						
Government sponsored agencies	\$ 114,568	\$ 910	\$ 14,236	\$ 764	\$ 128,804	\$ 1,674
State and political subdivisions	577,711	15,991	347,810	10,689	925,521	26,680
Residential mortgage-backed securities	89,157	1,767	53,532	2,240	142,689	4,007
Collateralized mortgage obligations	1,098,199	20,529	88,873	1,901	1,187,072	22,430
Corporate bonds	125,675	3,551	48,557	1,027	174,232	4,578
Trust preferred securities	—	—	4,274	107	4,274	107
Total	\$ 2,005,310	\$ 42,748	\$ 557,282	\$ 16,728	\$ 2,562,592	\$ 59,476
December 31, 2017						
Government sponsored agencies	\$ 63,818	\$ 510	\$ 24,621	\$ 438	\$ 88,439	\$ 948
State and political subdivisions	437,407	12,268	349,242	10,093	786,649	22,361
Residential mortgage-backed securities	93,508	383	56,576	1,243	150,084	1,626
Collateralized mortgage obligations	713,525	7,235	73,707	1,249	787,232	8,484
Corporate bonds	71,447	1,138	47,878	454	119,325	1,592
Trust preferred securities	—	—	11,164	172	11,164	172
Total	\$ 1,379,705	\$ 21,534	\$ 563,188	\$ 13,649	\$ 1,942,893	\$ 35,183

An assessment is performed quarterly by the Corporation to determine whether unrealized losses in its debt securities portfolio are temporary or other-than-temporary by carefully considering all reasonably available information. The Corporation reviews factors such as financial statements, credit ratings, news releases and other pertinent information of the underlying issuer or company to make its determination. Management did not believe any individual unrealized loss on any debt security, as of March 31, 2018, represented other-than-temporary impairment (OTTI) as the unrealized losses for these securities resulted primarily from changes in benchmark U.S. Treasury interest rates and not credit issues. Management believed that the unrealized losses on debt securities at March 31, 2018 were temporary in nature and due primarily to changes in interest rates and reduced market liquidity and not as a result of credit-related issues.

At March 31, 2018, the Corporation did not have the intent to sell any of its impaired debt securities and believed that it was more-likely-than-not that the Corporation will not have to sell any such debt securities before a full recovery of amortized cost. Accordingly, at March 31, 2018, the Corporation believed the impairments in its debt securities portfolio were temporary in nature. However, there is no assurance that OTTI may not occur in the future.

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Note 4: Loans

Loan portfolio segments are defined as the level at which an entity develops and documents a systematic methodology to determine its allowance. The Corporation has two loan portfolio segments (commercial loans and consumer loans) that it uses in determining the allowance. Both quantitative and qualitative factors are used by management at the loan portfolio segment level in determining the adequacy of the allowance for the Corporation. Classes of loans are a disaggregation of an entity's loan portfolio segments. Classes of loans are defined as a group of loans which share similar initial measurement attributes, risk characteristics, and methods for monitoring and assessing credit risk. The Corporation has six classes of loans, which are set forth below.

Commercial — Loans and lines of credit to varying types of businesses, including municipalities, school districts and nonprofit organizations, for the purpose of supporting working capital, operational needs and term financing of equipment. Repayment of such loans is generally provided through operating cash flows of the business. Commercial loans are predominately secured by equipment, inventory, accounts receivable, personal guarantees of the owner and other sources of repayment, although the Corporation may also secure commercial loans with real estate.

Commercial real estate — Loans secured by real estate occupied by the borrower for ongoing operations (owner-occupied), non-owner occupied real estate leased to one or more tenants (non-owner occupied) and vacant land that has been acquired for investment or future land development (vacant land).

Real estate construction and land development — Real estate construction loans represent secured loans for the construction of business properties. Real estate construction loans often convert to a commercial real estate loan at the completion of the construction period. Land development loans represent secured development loans made to borrowers for the purpose of infrastructure improvements to vacant land to create finished marketable residential and commercial lots/land. Most land development loans are originated with the intention that the loans will be paid through the sale of developed lots/land by the developers within twelve months of the completion date. Land development loans at March 31, 2018 and December 31, 2017 were primarily comprised of loans to develop residential properties.

Residential mortgage — Loans secured by one- to four-family residential properties, generally with fixed interest rates for periods of fifteen years or less. The loan-to-value ratio at the time of origination is generally 80% or less. Residential mortgage loans with a loan-to-value ratio of more than 80% generally require private mortgage insurance.

Consumer installment — Loans to consumers primarily for the purpose of acquiring automobiles, recreational vehicles and personal watercraft and comprised primarily of indirect loans purchased from dealers. These loans consist of relatively small amounts that are spread across many individual borrowers.

Home equity — Loans and lines of credit whereby consumers utilize equity in their personal residence, generally through a second mortgage, as collateral to secure the loan.

Loans held-for-sale, comprised of fixed-rate residential mortgage loans, were \$31.6 million at March 31, 2018 and \$52.1 million at December 31, 2017. The Corporation sold loans totaling \$190.4 million and \$191.5 million during the three months ended March 31, 2018 and 2017, respectively.

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Commercial, commercial real estate, and real estate construction and land development loans are referred to as the Corporation's commercial loan portfolio, while residential mortgage, consumer installment and home equity loans are referred to as the Corporation's consumer loan portfolio. A summary of the Corporation's loans follows:

(Dollars in thousands)	Originated	Acquired ⁽¹⁾	Total Loans
March 31, 2018			
Commercial loan portfolio:			
Commercial	\$ 2,486,533	\$ 940,752	\$ 3,427,285
Commercial real estate:			
Owner-occupied	1,185,797	647,027	1,832,824
Non-owner occupied	1,689,022	991,779	2,680,801
Vacant land	43,984	30,767	74,751
Total commercial real estate	2,918,803	1,669,573	4,588,376
Real estate construction and land development	485,474	74,306	559,780
Subtotal	5,890,810	2,684,631	8,575,441
Consumer loan portfolio:			
Residential mortgage	2,039,349	1,225,271	3,264,620
Consumer installment	1,478,673	93,567	1,572,240
Home equity	603,684	202,762	806,446
Subtotal	4,121,706	1,521,600	5,643,306
Total loans ⁽²⁾	\$ 10,012,516	\$ 4,206,231	\$ 14,218,747
December 31, 2017			
Commercial loan portfolio:			
Commercial	\$ 2,407,606	\$ 978,036	\$ 3,385,642
Commercial real estate:			
Owner-occupied	1,185,614	627,948	1,813,562
Non-owner occupied	1,518,787	1,087,974	2,606,761
Vacant land	47,024	33,323	80,347
Total commercial real estate	2,751,425	1,749,245	4,500,670
Real estate construction and land development	498,155	76,060	574,215
Subtotal	5,657,186	2,803,341	8,460,527
Consumer loan portfolio:			
Residential mortgage	1,967,857	1,284,630	3,252,487
Consumer installment	1,510,540	102,468	1,613,008
Home equity	611,846	217,399	829,245
Subtotal	4,090,243	1,604,497	5,694,740
Total loans ⁽²⁾	\$ 9,747,429	\$ 4,407,838	\$ 14,155,267

⁽¹⁾ Acquired loans are accounted for under ASC Topic 310-30, Loans and Debt Securities Acquired with Deteriorated Credit Quality (ASC 310-30)

⁽²⁾ Reported net of deferred costs totaling \$23.9 million and \$26.1 million at March 31, 2018 and December 31, 2017, respectively.

The Corporation acquired loans at fair value as of the acquisition date, which includes loans acquired in the acquisitions of Talmer Bancorp, Inc. ("Talmer"), Lake Michigan Financial Corporation ("Lake Michigan"), Monarch Community Bancorp, Inc. ("Monarch"), Northwestern Bancorp, Inc. ("Northwestern") and O.A.K. Financial Corporation ("OAK"). Acquired loans are accounted for under ASC 310-30 which recognizes the expected shortfall of expected future cash flows, as compared to the contractual amount due, as nonaccretable discount. Any excess of the net present value of expected future cash flows over the acquisition date fair value is recognized as the accretable discount, or accretable yield. The accretable discount is recognized over the expected remaining life of the acquired loans on a pool basis. In the event an acquired loan is renewed or extended, the loan continues to be accounted for as an acquired loan on a pool basis in accordance with ASC 310-30.

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Activity for the accretable yield, which includes contractually due interest for acquired loans that have been renewed or extended since the date of acquisition and continue to be accounted for in loan pools in accordance with ASC 310-30, follows:

(Dollars in thousands)	Talmer	Lake Michigan	Monarch	North-western	OAK	Total
Three Months Ended March 31, 2018						
Balance at beginning of period	\$ 731,353	\$ 95,124	\$ 22,496	\$ 60,814	\$ 17,110	\$ 926,897
Accretion recognized in interest income	(42,640)	(6,758)	(1,156)	(4,904)	(3,103)	(58,561)
Net reclassification (to) from nonaccretable difference ⁽¹⁾	(2,883)	1,790	(186)	(510)	2,151	362
Balance at end of period	<u>\$ 685,830</u>	<u>\$ 90,156</u>	<u>\$ 21,154</u>	<u>\$ 55,400</u>	<u>\$ 16,158</u>	<u>\$ 868,698</u>
Three Months Ended March 31, 2017						
Balance at beginning of period	\$ 798,210	\$ 121,416	\$ 27,182	\$ 69,847	\$ 23,316	\$ 1,039,971
Accretion recognized in interest income	(44,571)	(7,266)	(1,181)	(3,892)	(3,277)	(60,187)
Net reclassification (to) from nonaccretable difference ⁽¹⁾	21,139	(939)	54	(1,058)	1,428	20,624
Balance at end of period	<u>\$ 774,778</u>	<u>\$ 113,211</u>	<u>\$ 26,055</u>	<u>\$ 64,897</u>	<u>\$ 21,467</u>	<u>\$ 1,000,408</u>

⁽¹⁾ The net reclassification results from changes in expected cash flows of the acquired loans which may include increases in the amount of contractual principal and interest expected to be collected due to improvement in credit quality, increases in balances outstanding from advances, renewals, extensions and interest rates; as well as reductions in contractual principal and interest expected to be collected due to credit deterioration, payoffs, and decreases in interest rates.

Credit Quality Monitoring

The Corporation maintains loan policies and credit underwriting standards as part of the process of managing credit risk. These standards include making loans generally only within the Corporation's market areas. The Corporation's lending markets generally consist of communities throughout Michigan and additional communities located within Northeast Ohio and Northern Indiana.

The Corporation, through Chemical Bank, has a commercial loan portfolio approval process involving underwriting and individual and group loan approval authorities to consider credit quality and loss exposure at loan origination. The loans in the Corporation's commercial loan portfolio are risk rated at origination based on the grading system set forth below. The approval authority of relationship managers is established based on experience levels, with credit decisions greater than \$1.25 million requiring credit officer approval and credit decisions greater than \$3.0 million requiring group loan authority approval, except for six executive and senior officers who have varying loan limits up to \$8.0 million. With respect to the group loan authorities, Chemical Bank has various regional loan committees that meet weekly to consider loans ranging in amounts of \$3.0 million to \$7.0 million, and a senior loan committee, consisting of certain executive and senior officers, that meets weekly to consider loans ranging in amounts from \$7.0 million up to Chemical Bank's internal lending limit, depending on risk rating and credit action required. Credit actions exceeding Chemical Bank's internal lending limit require the approval of the board of directors of Chemical Bank.

The majority of the Corporation's consumer loan portfolio is comprised of secured loans that are relatively small. The Corporation's consumer loan portfolio has a centralized approval process which utilizes standardized underwriting criteria. The ongoing measurement of credit quality of the consumer loan portfolio is largely done on an exception basis. If payments are made on schedule, as agreed, then no further monitoring is performed. However, if delinquency occurs, the delinquent loans are turned over to the Corporation's collection department for resolution, resulting in repossession or foreclosure if payments are not brought current. Credit quality for the entire consumer loan portfolio is measured by the periodic delinquency rate, nonaccrual amounts and actual losses incurred.

Loans in the commercial loan portfolio tend to be larger and more complex than those in the consumer loan portfolio, and therefore, are subject to more intensive monitoring. All loans in the commercial loan portfolio have an assigned relationship manager, and most borrowers provide periodic financial and operating information that allows the relationship managers to stay abreast of credit quality during the life of the loans. The risk ratings of loans in the commercial loan portfolio are reassessed at least annually, with loans below an acceptable risk rating reassessed more frequently and reviewed by various loan committees within the Corporation at least quarterly.

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The Corporation maintains a centralized independent loan review function that monitors the approval process and ongoing asset quality of the loan portfolio, including the accuracy of loan grades. The Corporation also maintains an independent appraisal review function that participates in the review of all appraisals obtained by the Corporation for loans in the commercial loan portfolio.

Credit Quality Indicators

Commercial Loan Portfolio

Risk categories for the Corporation's commercial loan portfolio establish the credit quality of a borrower by measuring liquidity, debt capacity, coverage and payment behavior as shown in the borrower's financial statements. The risk categories also measure the quality of the borrower's management and the repayment support offered by any guarantors. Risk categories for the Corporation's commercial loan portfolio are described as follows:

Pass: Includes all loans without weaknesses or potential weaknesses identified in the categories of special mention, substandard or doubtful.

Special Mention: Loans with potential credit weakness or credit deficiency, which, if not corrected, pose an unwarranted financial risk that could weaken the loan by adversely impacting the future repayment ability of the borrower.

Substandard: Loans with a well-defined weakness, or weaknesses, such as loans to borrowers who may be experiencing losses from operations or inadequate liquidity of a degree and duration that jeopardizes the orderly repayment of the loan. Substandard loans also are distinguished by the distinct possibility of loss in the future if these weaknesses are not corrected.

Doubtful: Loans with all the characteristics of a loan classified as Substandard, with the added characteristic that credit weaknesses make collection in full highly questionable and improbable. The primary source of repayment is nonexistent and there is doubt as to the value of the secondary source of repayments. A doubtful asset has a high probability of total or substantial loss, but because of pending events that may strengthen the asset, its classification as loss is deferred.

Loss: An asset classified as loss is considered uncollectible and of such little value that the continuance as a bankable asset is not warranted. This classification does not mean that an asset has absolutely no recovery or salvage value, but rather that it is not practical or desirable to defer writing off this basically worthless asset even through partial recovery may occur in the future.

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The following schedule presents the recorded investment of loans in the commercial loan portfolio by credit risk categories at March 31, 2018 and December 31, 2017:

(Dollars in thousands)	Pass	Special Mention	Substandard	Doubtful	Total
March 31, 2018					
Originated Portfolio:					
Commercial	\$ 2,401,859	\$ 37,084	\$ 47,590	\$ —	\$ 2,486,533
Commercial real estate:					
Owner-occupied	1,123,847	16,850	44,789	311	1,185,797
Non-owner occupied	1,652,313	33,895	2,813	1	1,689,022
Vacant land	37,179	53	6,752	—	43,984
Total commercial real estate	2,813,339	50,798	54,354	312	2,918,803
Real estate construction and land development	472,340	9,724	3,410	—	485,474
Subtotal	5,687,538	97,606	105,354	312	5,890,810
Acquired Portfolio:					
Commercial	830,615	66,480	43,471	186	940,752
Commercial real estate:					
Owner-occupied	583,937	26,683	36,022	385	647,027
Non-owner occupied	913,327	45,146	33,306	—	991,779
Vacant land	25,632	312	4,823	—	30,767
Total commercial real estate	1,522,896	72,141	74,151	385	1,669,573
Real estate construction and land development	71,736	1,611	959	—	74,306
Subtotal	2,425,247	140,232	118,581	571	2,684,631
Total	\$ 8,112,785	\$ 237,838	\$ 223,935	\$ 883	\$ 8,575,441
December 31, 2017					
Originated Portfolio:					
Commercial	\$ 2,316,464	\$ 41,059	\$ 50,083	\$ —	\$ 2,407,606
Commercial real estate:					
Owner-occupied	1,133,609	19,438	32,567	—	1,185,614
Non-owner occupied	1,504,195	4,728	9,864	—	1,518,787
Vacant land	39,775	38	7,211	—	47,024
Total commercial real estate	2,677,579	24,204	49,642	—	2,751,425
Real estate construction and land development	494,528	837	2,790	—	498,155
Subtotal	5,488,571	66,100	102,515	—	5,657,186
Acquired Portfolio:					
Commercial	873,861	68,418	35,539	218	978,036
Commercial real estate:					
Owner-occupied	580,127	23,998	23,036	787	627,948
Non-owner occupied	995,709	43,645	48,620	—	1,087,974
Vacant land	27,849	327	5,147	—	33,323
Total commercial real estate	1,603,685	67,970	76,803	787	1,749,245
Real estate construction and land development	72,346	2,218	1,496	—	76,060
Subtotal	2,549,892	138,606	113,838	1,005	2,803,341
Total	\$ 8,038,463	\$ 204,706	\$ 216,353	\$ 1,005	\$ 8,460,527

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Consumer Loan Portfolio

The Corporation evaluates the credit quality of loans in the consumer loan portfolio based on the performing or nonperforming status of the loan. Loans in the consumer loan portfolio that are performing in accordance with original contractual terms and are less than 90 days past due and accruing interest are considered to be in a performing status, while those that are in nonaccrual status, contractually past due 90 days or more as to interest or principal payments, are considered to be in a nonperforming status. Loans accounted for under ASC 310-30, "Acquired loans", that are not performing in accordance with contractual terms are not reported as nonperforming because these loans are recorded in pools at their net realizable value based on the principal and interest the Corporation expects to collect on these loans.

The following schedule presents the recorded investment of loans in the consumer loan portfolio based on loans in a performing status and loans in a nonperforming status at March 31, 2018 and December 31, 2017:

(Dollars in thousands)	Residential Mortgage	Consumer Installment	Home Equity	Total Consumer
March 31, 2018				
Originated Loans:				
Performing	\$ 2,031,728	\$ 1,477,751	\$ 600,645	\$ 4,110,124
Nonperforming	7,621	922	3,039	11,582
Subtotal	<u>2,039,349</u>	<u>1,478,673</u>	<u>603,684</u>	<u>4,121,706</u>
Acquired Loans	1,225,271	93,567	202,762	1,521,600
Total	<u>\$ 3,264,620</u>	<u>\$ 1,572,240</u>	<u>\$ 806,446</u>	<u>\$ 5,643,306</u>
December 31, 2017				
Originated Loans:				
Performing	\$ 1,959,222	\$ 1,509,698	\$ 607,541	\$ 4,076,461
Nonperforming	8,635	842	4,305	13,782
Subtotal	<u>1,967,857</u>	<u>1,510,540</u>	<u>611,846</u>	<u>4,090,243</u>
Acquired Loans	1,284,630	102,468	217,399	1,604,497
Total	<u>\$ 3,252,487</u>	<u>\$ 1,613,008</u>	<u>\$ 829,245</u>	<u>\$ 5,694,740</u>

Nonperforming Assets and Past Due Loans

Nonperforming assets consist of loans for which the accrual of interest has been discounted, other real estate owned acquired through acquisitions, other real estate owned obtained through foreclosure and other repossessed assets.

Loans are considered past due or delinquent when the contractual principal or interest due in accordance with the terms of the loan agreement or any portion thereof remains unpaid after the due date of the scheduled payments. Loans outside of those accounted for under ASC 310-30 are classified as nonaccrual when, in the opinion of management, collection of principal or interest is doubtful. The accrual of interest is discontinued when a loan is placed in nonaccrual status and any payments received reduce the carrying value of the loan. A loan may be placed back on accrual status if all contractual payments have been received and collection of future principal and interest payments are no longer doubtful. Acquired loans that are not performing in accordance with contractual terms are not reported as nonperforming because these loans are recorded in pools at their net realizable value based on the principal and interest the Corporation expects to collect on these loans.

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A summary of nonperforming loans follows:

(Dollars in thousands)	March 31, 2018	December 31, 2017
Nonperforming assets		
Nonaccrual loans:		
Commercial	\$ 20,000	\$ 19,691
Commercial real estate:		
Owner-occupied	19,855	19,070
Non-owner occupied	5,489	5,270
Vacant land	4,829	5,205
Total commercial real estate	30,173	29,545
Real estate construction and land development	77	77
Residential mortgage	7,621	8,635
Consumer installment	922	842
Home equity	3,039	4,305
Total nonaccrual loans	61,832	63,095
Other real estate owned and repossessed assets	7,719	8,807
Total nonperforming assets	\$ 69,551	\$ 71,902
Accruing loans contractually past due 90 days or more as to interest or principal payments, excluding acquired loans accounted for under ASC 310-30		
Commercial	\$ 322	\$ —
Commercial real estate:		
Non-owner occupied	—	13
Total commercial real estate	—	13
Home equity	913	1,364
Total accruing loans contractually past due 90 days or more as to interest or principal payments, excluding acquired loans accounted for under ASC 310-30	\$ 1,235	\$ 1,377

The Corporation's nonaccrual loans at March 31, 2018 and December 31, 2017 included \$26.2 million and \$29.1 million, respectively, of nonaccrual TDRs.

The Corporation had \$3.2 million of residential mortgage loans that were in the process of foreclosure at March 31, 2018, compared to \$4.2 million at December 31, 2017.

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Loan delinquency, excluding acquired loans accounted for under ASC 310-30, was as follows:

(Dollars in thousands)	30-59 days past due	60-89 days past due	90 days or more past due	Total past due	Current	Total loans	90 days or more past due and still accruing
March 31, 2018							
Originated Portfolio:							
Commercial	\$ 8,689	\$ 6,079	\$ 12,122	\$ 26,890	\$ 2,459,643	\$ 2,486,533	\$ 322
Commercial real estate:							
Owner-occupied	10,829	3,368	8,394	22,591	1,163,206	1,185,797	—
Non-owner occupied	3,749	897	928	5,574	1,683,448	1,689,022	—
Vacant land	675	—	180	855	43,129	43,984	—
Total commercial real estate	15,253	4,265	9,502	29,020	2,889,783	2,918,803	—
Real estate construction and land development	100	—	—	100	485,374	485,474	—
Residential mortgage	3,020	246	2,276	5,542	2,033,807	2,039,349	—
Consumer installment	2,817	570	257	3,644	1,475,029	1,478,673	—
Home equity	3,631	1,360	2,049	7,040	596,644	603,684	913
Total	\$ 33,510	\$ 12,520	\$ 26,206	\$ 72,236	\$ 9,940,280	\$ 10,012,516	\$ 1,235
December 31, 2017							
Originated Portfolio:							
Commercial	\$ 13,906	\$ 3,766	\$ 9,494	\$ 27,166	\$ 2,380,440	\$ 2,407,606	\$ —
Commercial real estate:							
Owner-occupied	7,644	1,306	5,027	13,977	1,171,637	1,185,614	—
Non-owner occupied	1,653	228	693	2,574	1,516,213	1,518,787	13
Vacant land	83	28	153	264	46,760	47,024	—
Total commercial real estate	9,380	1,562	5,873	16,815	2,734,610	2,751,425	13
Real estate construction and land development	—	—	—	—	498,155	498,155	—
Residential mortgage	2,795	1,415	858	5,068	1,962,789	1,967,857	—
Consumer installment	3,324	442	226	3,992	1,506,548	1,510,540	—
Home equity	2,319	1,301	2,196	5,816	606,030	611,846	1,364
Total	\$ 31,724	\$ 8,486	\$ 18,647	\$ 58,857	\$ 9,688,572	\$ 9,747,429	\$ 1,377

Impaired Loans

A loan is impaired when, based on current information and events, it is probable that the Corporation will be unable to collect all amounts due according to the contractual terms of the loan agreement. Impaired loans include nonperforming loans and all TDRs. Impaired loans are accounted for at the lower of the present value of expected cash flows or the estimated fair value of the collateral. When the present value of expected cash flows or the fair value of the collateral of an impaired loan not accounted for under ASC 310-30 is less than the amount of unpaid principal outstanding on the loan, the recorded principal balance of the loan is reduced to its carrying value through either a specific allowance for loan loss or a partial charge-off of the loan balance.

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The following schedules present impaired loans by classes of loans at March 31, 2018 and December 31, 2017:

(Dollars in thousands)	Recorded Investment	Unpaid Principal Balance	Related Valuation Allowance
March 31, 2018			
Impaired loans with a valuation allowance:			
Commercial	\$ 23,500	\$ 25,998	\$ 1,987
Commercial real estate:			
Owner-occupied	15,177	19,266	2,510
Non-owner occupied	2,952	5,545	201
Vacant land	1,317	1,520	356
Total commercial real estate	19,446	26,331	3,067
Real estate construction and land development	164	164	26
Residential mortgage	13,434	13,434	1,422
Consumer installment	1,101	1,101	206
Home equity	3,409	3,409	286
Subtotal	61,054	70,437	6,994
Impaired loans with no related valuation allowance:			
Commercial	14,771	15,637	—
Commercial real estate:			
Owner-occupied	15,435	16,291	—
Non-owner occupied	8,122	9,135	—
Vacant land	3,854	4,652	—
Total commercial real estate	27,411	30,078	—
Real estate construction and land development	174	241	—
Residential mortgage	5,928	5,928	—
Consumer installment	—	—	—
Home equity	1,780	1,780	—
Subtotal	50,064	53,664	—
Total impaired loans:			
Commercial	38,271	41,635	1,987
Commercial real estate:			
Owner-occupied	30,612	35,557	2,510
Non-owner occupied	11,074	14,680	201
Vacant land	5,171	6,172	356
Total commercial real estate	46,857	56,409	3,067
Real estate construction and land development	338	405	26
Residential mortgage	19,362	19,362	1,422
Consumer installment	1,101	1,101	206
Home equity	5,189	5,189	286
Total	\$ 111,118	\$ 124,101	\$ 6,994

Chemical Financial Corporation
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(Dollars in thousands)	Recorded Investment	Unpaid Principal Balance	Related Valuation Allowance
December 31, 2017			
Impaired loans with a valuation allowance:			
Commercial	\$ 28,897	\$ 31,655	\$ 2,296
Commercial real estate:			
Owner-occupied	17,774	21,588	2,317
Non-owner occupied	5,307	7,870	316
Vacant land	4,922	5,122	594
Total commercial real estate	28,003	34,580	3,227
Real estate construction and land development	313	313	14
Residential mortgage	15,872	15,872	1,487
Consumer installment	966	966	120
Home equity	4,570	4,570	858
Subtotal	78,621	87,956	8,002
Impaired loans with no related valuation allowance:			
Commercial	8,504	9,291	—
Commercial real estate:			
Owner-occupied	11,351	12,631	—
Non-owner occupied	5,977	6,438	—
Vacant land	752	792	—
Total commercial real estate	18,080	19,861	—
Residential mortgage	4,902	4,902	—
Home equity	1,770	1,770	—
Subtotal	33,256	35,824	—
Total impaired loans:			
Commercial	37,401	40,946	2,296
Commercial real estate:			
Owner-occupied	29,125	34,219	2,317
Non-owner occupied	11,284	14,308	316
Vacant land	5,674	5,914	594
Total commercial real estate	46,083	54,441	3,227
Real estate construction and land development	313	313	14
Residential mortgage	20,774	20,774	1,487
Consumer installment	966	966	120
Home equity	6,340	6,340	858
Total	\$ 111,877	\$ 123,780	\$ 8,002

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The following schedule presents additional information regarding impaired loans by classes of loans segregated by those requiring a valuation allowance and those not requiring a valuation allowance for the three months ended March 31, 2018 and 2017, and the respective interest income amounts recognized:

(Dollars in thousands)	Three Months Ended March 31, 2018		Three Months Ended March 31, 2017	
	Average recorded investment	Interest income recognized while on impaired status	Average recorded investment	Interest income recognized while on impaired status
Impaired loans with a valuation allowance:				
Commercial	\$ 20,402	\$ 165	\$ 25,712	\$ 224
Commercial real estate:				
Owner-occupied	14,072	82	14,659	154
Non-owner occupied	3,870	11	3,388	24
Vacant land	3,695	15	1,988	25
Total commercial real estate	21,637	108	20,035	203
Real estate construction and land development	225	2	161	2
Residential mortgage	13,604	117	17,398	155
Consumer installment	906	1	780	1
Home equity	3,694	17	4,071	21
Subtotal	\$ 60,468	\$ 410	\$ 68,157	\$ 606
Impaired loans with no related valuation allowance:				
Commercial	\$ 18,126	\$ 95	\$ 9,297	\$ 30
Commercial real estate:				
Owner-occupied	15,369	56	9,866	6
Non-owner occupied	7,158	65	9,131	85
Vacant land	1,769	—	4,476	12
Total commercial real estate	24,296	121	23,473	103
Real estate construction and land development	107	1	81	—
Residential mortgage	6,138	23	3,808	8
Consumer installment	140	—	215	—
Home equity	2,046	7	880	1
Subtotal	\$ 50,853	\$ 247	\$ 37,754	\$ 142
Total impaired loans:				
Commercial	\$ 38,528	\$ 260	\$ 35,009	\$ 254
Commercial real estate:				
Owner-occupied	29,441	138	24,525	160
Non-owner occupied	11,028	76	12,519	109
Vacant land	5,464	15	6,464	37
Total commercial real estate	45,933	229	43,508	306
Real estate construction and land development	332	3	242	2
Residential mortgage	19,742	140	21,206	163
Consumer installment	1,046	1	995	1
Home equity	5,740	24	4,951	22
Total	\$ 111,321	\$ 657	\$ 105,911	\$ 748

The difference between an impaired loan's recorded investment and the unpaid principal balance for originated loans represents a partial charge-off resulting from a confirmed loss due to the value of the collateral securing the loan being below the loan balance and management's assessment that full collection of the loan balance is not likely.

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Impaired loans included \$49.3 million and \$48.8 million at March 31, 2018 and December 31, 2017, respectively, of accruing TDRs.

Loans Modified Under Troubled Debt Restructurings (TDRs)

The following tables present the recorded investment of loans modified into TDRs during the three months ended March 31, 2018 and 2017 by type of concession granted. In cases where more than one type of concession was granted, the loans were categorized based on the most significant concession.

(Dollars in thousands)	Concession type				Total number of loans	Pre-modification recorded investment	Post-modification recorded investment
	Principal deferral	Principal reduction	Interest rate	Forbearance agreement			
For the three months ended March 31, 2018							
Commercial loan portfolio:							
Commercial	\$ 903	\$ —	\$ 1,065	\$ 261	18	\$ 2,235	\$ 2,229
Commercial real estate:							
Owner-occupied	—	—	726	482	2	1,208	1,208
Non-owner occupied	68	—	—	—	1	74	68
Total commercial real estate	68	—	726	482	3	1,282	1,276
Total Commercial	971	—	1,791	743	21	3,517	3,505
Consumer loan portfolio:							
Residential mortgage	138	—	—	—	4	142	138
Consumer installment	71	23	28	—	16	128	122
Home equity	185	—	28	—	5	253	213
Total Consumer	394	23	56	—	25	523	473
Total loans	<u>\$ 1,365</u>	<u>\$ 23</u>	<u>\$ 1,847</u>	<u>\$ 743</u>	<u>46</u>	<u>\$ 4,040</u>	<u>\$ 3,978</u>

(Dollars in thousands)	Concession type			Total number of loans	Pre-modification recorded investment	Post-modification recorded investment
	Principal deferral	Interest rate	Forbearance agreement			
For the three months ended March 31, 2017						
Commercial loan portfolio:						
Commercial	\$ 50	\$ 1,101	\$ 579	5	\$ 1,739	\$ 1,730
Commercial real estate:						
Owner-occupied	447	75	—	3	522	522
Total commercial real estate	447	75	—	3	522	522
Total Commercial	497	1,176	579	8	2,261	2,252
Consumer loan portfolio:						
Residential mortgage	98	—	—	1	98	98
Consumer installment	10	—	—	2	11	10
Home equity	111	—	—	1	165	111
Total Consumer	219	—	—	4	274	219
Total loans	<u>\$ 716</u>	<u>\$ 1,176</u>	<u>\$ 579</u>	<u>12</u>	<u>\$ 2,535</u>	<u>\$ 2,471</u>

The pre-modification and post-modification recorded investment represents amounts as of the date of loan modification. The difference between the pre-modification and post-modification recorded investment of residential mortgage TDRs represents impairment recognized by the Corporation through the provision for loan losses computed based on a loan's post-modification present value of expected future cash flows discounted at the loan's original effective interest rate.

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The following schedule presents the Corporation's TDRs at March 31, 2018 and December 31, 2017:

(Dollars in thousands)	Accruing TDRs	Nonaccrual TDRs	Total
March 31, 2018			
Commercial loan portfolio	\$ 35,216	\$ 21,914	\$ 57,130
Consumer loan portfolio	14,070	4,265	18,335
Total	<u>\$ 49,286</u>	<u>\$ 26,179</u>	<u>\$ 75,465</u>
December 31, 2017			
Commercial loan portfolio	\$ 34,484	\$ 24,358	\$ 58,842
Consumer loan portfolio	14,298	4,748	19,046
Total	<u>\$ 48,782</u>	<u>\$ 29,106</u>	<u>\$ 77,888</u>

The following schedule includes TDRs for which there was a payment default during the three months ended March 31, 2018 and 2017, whereby the borrower was past due with respect to principal and/or interest for 90 days or more, and the loan became a TDR during the twelve-month period prior to the default:

(Dollars in thousands)	For The Three Months Ended March 31, 2018	
	Number of loans	Principal balance
Commercial loan portfolio (commercial)	1	\$ 82
Consumer loan portfolio (residential mortgage)	1	3
Total	<u>2</u>	<u>\$ 85</u>

(Dollars in thousands)	For The Three Months Ended March 31, 2017	
	Number of loans	Principal balance
Commercial loan portfolio (commercial)	3	\$ 620
Consumer loan portfolio (residential mortgage)	2	105
Total	<u>5</u>	<u>\$ 725</u>

Commitments to lend additional funds to borrowers whose terms have been modified in TDRs totaled \$1.6 million and \$2 thousand at March 31, 2018 and December 31, 2017, respectively.

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Allowance for Loan Losses

The following schedule presents, by loan portfolio segment, the changes in the allowance for the originated loan portfolio for the three months ended March 31, 2018 and 2017.

(Dollars in thousands)	Commercial Loan Portfolio	Consumer Loan Portfolio	Total
Originated Loan Portfolio			
Changes in allowance for loan losses for the three months ended March 31, 2018:			
Beginning balance	\$ 66,133	\$ 25,754	\$ 91,887
Provision for loan losses	3,400	2,856	6,256
Charge-offs	(2,594)	(2,230)	(4,824)
Recoveries	805	638	1,443
Ending balance	<u>\$ 67,744</u>	<u>\$ 27,018</u>	<u>\$ 94,762</u>
Changes in allowance for loan losses for the three months ended March 31, 2017:			
Beginning balance	\$ 51,201	\$ 27,067	\$ 78,268
Provision for loan losses	4,392	(342)	4,050
Charge-offs	(2,691)	(2,883)	(5,574)
Recoveries	1,413	617	2,030
Ending balance	<u>\$ 54,315</u>	<u>\$ 24,459</u>	<u>\$ 78,774</u>

The following schedule presents by loan portfolio segment, details regarding the balance in the allowance and the recorded investment in loans at March 31, 2018 and December 31, 2017 by impairment evaluation method.

(Dollars in thousands)	Commercial Loan Portfolio	Consumer Loan Portfolio	Total
Allowance for loan losses balance at March 31, 2018 attributable to:			
Loans individually evaluated for impairment	\$ 5,080	\$ 1,914	\$ 6,994
Loans collectively evaluated for impairment	62,664	25,104	87,768
Loans acquired with deteriorated credit quality	—	—	—
Total	<u>\$ 67,744</u>	<u>\$ 27,018</u>	<u>\$ 94,762</u>
Recorded investment (loan balance) at March 31, 2018:			
Loans individually evaluated for impairment	\$ 85,466	\$ 25,652	\$ 111,118
Loans collectively evaluated for impairment	5,805,344	4,096,054	9,901,398
Loans acquired with deteriorated credit quality	2,684,631	1,521,600	4,206,231
Total	<u>\$ 8,575,441</u>	<u>\$ 5,643,306</u>	<u>\$ 14,218,747</u>
Allowance for loan losses balance at December 31, 2017 attributable to:			
Loans individually evaluated for impairment	\$ 5,537	\$ 2,465	\$ 8,002
Loans collectively evaluated for impairment	60,596	23,289	83,885
Loans acquired with deteriorated credit quality	—	—	—
Total	<u>\$ 66,133</u>	<u>\$ 25,754</u>	<u>\$ 91,887</u>
Recorded investment (loan balance) at December 31, 2017:			
Loans individually evaluated for impairment	\$ 83,797	\$ 28,080	\$ 111,877
Loans collectively evaluated for impairment	5,573,389	4,062,163	9,635,552
Loans acquired with deteriorated credit quality	2,803,341	1,604,497	4,407,838
Total	<u>\$ 8,460,527</u>	<u>\$ 5,694,740</u>	<u>\$ 14,155,267</u>

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Note 5: Other Real Estate Owned and Repossessed Assets

Changes in other real estate owned and repossessed assets, included in interest receivable and other assets on the Consolidated Statements of Financial Position, were as follows:

(Dollars in thousands)	Other real estate owned	Repossessed assets
Balance at January 1, 2018	\$ 8,182	\$ 625
Transfers based on adoption of ASU 2014-09 ⁽¹⁾	(189)	—
Additions ⁽²⁾	1,638	846
Net payments received	(103)	—
Disposals	(1,678)	(951)
Write-downs	(651)	—
Balance at March 31, 2018	\$ 7,199	\$ 520
Balance at January 1, 2017	\$ 16,812	\$ 375
Additions ⁽¹⁾	3,119	1,162
Net payments received	(39)	—
Disposals	(3,728)	(1,037)
Write-downs	(269)	—
Balance at March 31, 2017	\$ 15,895	\$ 500

⁽¹⁾ In accordance with the updates to Topic 606 adopted by the Corporation effective January 1, 2018, \$1.1 million of other real estate owned sold with seller financing were reclassified on the Consolidated Statements of Financial Position to loans and the related \$0.9 million of deferred gains were recognized in income as an adjustment to opening retained earnings. Refer to Note 1, Basis of Presentation and Significant Accounting Policies for further information.

⁽²⁾ Includes loans transferred to other real estate owned and other repossessed assets.

At March 31, 2018, the Corporation had \$0.6 million of other real estate owned and repossessed assets as a result of obtaining physical possession in accordance with ASU No. 2014-04, Reclassification of Residential Real Estate Collateralized Consumer Mortgage Loans Upon Foreclosure. In addition, there were \$3.2 million of consumer mortgage loans secured by residential real estate properties for which formal foreclosure proceedings are in process as of March 31, 2018.

Income and expenses related to other real estate owned and repossessed assets, recorded as a component of "Other" operating expenses in the Consolidated Statements of Income, were as follows:

(Dollars in thousands)	Other real estate owned	Repossessed assets
For the three months ended March 31, 2018		
Net gain (loss) on sale	\$ 756	\$ (34)
Write-downs	(651)	—
Net operating expenses	(397)	(1)
Total	\$ (292)	\$ (35)
For the three months ended March 31, 2017		
Net gain (loss) on sale	\$ 1,047	\$ (78)
Write-downs	(269)	—
Net operating expenses	(508)	(3)
Total	\$ 270	\$ (81)

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Note 6: Goodwill

Goodwill was \$1.13 billion at both March 31, 2018 and December 31, 2017. Goodwill recorded is primarily attributable to the synergies and economies of scale expected from combining the operations of the Corporation and acquired and merged organizations.

Goodwill is not amortized but is evaluated at least annually for impairment. The Corporation's most recent annual goodwill impairment review performed as of October 31, 2017 did not indicate that an impairment of goodwill existed. The Corporation also determined that no triggering events have occurred that indicated impairment from the most recent valuation date through March 31, 2018 and that the Corporation's goodwill was not impaired at March 31, 2018.

Note 7: Loan Servicing Rights

Loan servicing rights ("LSRs") are created as a result of selling residential mortgage and commercial real estate loans in the secondary market while retaining the right to service these loans and receive servicing income over the life of the loan, and from acquisitions of other banks that had LSRs. Loans serviced for others are not reported as assets in the Consolidated Statements of Financial Position. The Corporation has elected to account for LSRs under the fair value measurement method.

LSRs are established and recorded at the estimated fair value by calculating the present value of estimated future net servicing cash flows, taking into consideration actual and expected mortgage loan prepayment rates, discount rates, servicing costs, and other economic factors, which are determined based on current market conditions. The following table represents the activity for LSRs and the related fair value changes:

(Dollars in thousands)	Commercial Real Estate	Mortgage	Total
For the three months ended March 31, 2018			
Fair value, beginning of period	\$ 427	\$ 63,414	\$ 63,841
Additions from loans sold with servicing retained	43	1,924	1,967
Changes in fair value due to:			
Reductions from pay-offs, pay downs and run-off	(29)	(694)	(723)
Changes in estimates of fair value ⁽¹⁾	—	3,752	3,752
Fair value, end of period	<u>\$ 441</u>	<u>\$ 68,396</u>	<u>\$ 68,837</u>
Principal balance of loans serviced	<u>\$ 42,032</u>	<u>\$ 7,018,307</u>	<u>\$ 7,060,339</u>
For the three months ended March 31, 2017			
Fair value, beginning of period	\$ 344	\$ 47,741	\$ 48,085
Transfers in based on new accounting policy election ⁽²⁾	—	15,891	15,891
Additions from loans sold with servicing retained	—	1,753	1,753
Changes in fair value due to:			
Reductions from pay-offs, pay downs and run-off	(24)	(582)	(606)
Changes in estimates of fair value ⁽¹⁾	—	(519)	(519)
Fair value, end of period	<u>\$ 320</u>	<u>\$ 64,284</u>	<u>\$ 64,604</u>
Principal balance of loans serviced	<u>\$ 50,942</u>	<u>\$ 7,253,396</u>	<u>\$ 7,304,338</u>

⁽¹⁾ Represents estimated LSR value change resulting primarily from market-driven changes in interest rates and prepayments. Included in "Net gain on sale of loans and other mortgage banking revenue" in the Consolidated Statements of Income.

⁽²⁾ The Corporation elected as of January 1, 2017 to account for all loan servicing rights previously accounted for at the lower of cost or fair value under the fair value measurement method. For further information on this election, refer to Note 1, Basis of Presentation and Significant Accounting Policies.

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Expected and actual loan prepayment speeds are the most significant factors driving the fair value of loan servicing rights. The following table presents assumptions utilized in determining the fair value of loan servicing rights as of March 31, 2018 and December 31, 2017.

	Mortgage
As of March 31, 2018	
Prepayment speed	0.0 - 36.6%
Weighted average ("WA") discount rate	10.1%
WA cost to service/per year	\$ 66
WA ancillary income/per year	\$ 31
WA float range	1.9%
As of December 31, 2017	
Prepayment speed	0.0 - 38.8%
WA discount rate	10.1%
WA cost to service/per year	\$ 66
WA ancillary income/per year	\$ 31
WA float range	1.6%

The Corporation realized total loan servicing fee income, included in "Net gain on sale of loans and other mortgage banking revenue" in the Consolidated Statements of Income, of \$4.6 million and \$4.5 million for the three months ended March 31, 2018 and 2017, respectively.

Note 8: Other Intangible Assets

The following table shows the net carrying value of the Corporation's other intangible assets.

(Dollars in thousands)	March 31, 2018	December 31, 2017
Core deposit intangible assets	\$ 32,833	\$ 34,259
Non-compete intangible assets	—	12
Total other intangible assets	\$ 32,833	\$ 34,271

Core Deposit Intangible Assets

The Corporation recorded core deposit intangible assets associated with each of its acquisitions. Core deposit intangible assets are amortized on an accelerated basis over their estimated useful lives and have an estimated remaining weighted-average useful life of 7.3 years as of March 31, 2018.

The following table sets forth the carrying amount and accumulated amortization of core deposit intangible assets that are amortizable and arose from business combinations or other acquisitions:

(Dollars in thousands)	March 31, 2018	December 31, 2017
Gross original amount	\$ 56,456	\$ 59,143
Accumulated amortization	23,623	24,884
Net carrying amount	\$ 32,833	\$ 34,259

Amortization expense recognized on core deposit intangible assets was \$1.4 million and \$1.5 million for the three months ended March 31, 2018 and 2017, respectively.

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The estimated future amortization expense on core deposit intangible assets for periods ending after March 31, 2018 is as follows: 2018 — \$4.3 million; 2019 — \$5.4 million; 2020 — \$4.9 million; 2021 — \$4.5 million; 2022 — \$4.2 million; 2023 and thereafter — \$9.5 million.

Note 9: Derivative Instruments and Balance Sheet Offsetting

In the normal course of business, the Corporation enters into various transactions involving derivative instruments to manage exposure to fluctuations in interest rates and to meet the financing needs of customers (customer-initiated derivatives). These financial instruments involve, to varying degrees, elements of market and credit risk. Market and credit risk are included in the determination of fair value.

Commitments to fund mortgage loans (interest rate locks) to be sold into the secondary market and forward commitments for the future delivery of mortgage loans to third party investors are considered derivatives. It is the Corporation's practice to enter into forward commitments for the future delivery of mortgage loans when interest rate lock commitments are entered into in order to economically hedge the effect of changes in interest rates resulting from its commitments to fund the loans.

The Corporation enters into interest rate derivatives to provide a service to certain qualifying customers to help facilitate their respective risk management strategies, customer-initiated derivatives, and, therefore, are not used for interest rate risk management purposes. These derivatives primarily consist of interest rate swaps and interest rate caps and floors. The Corporation generally takes offsetting positions with dealer counterparts to mitigate the inherent risk. Income primarily results from the spread between the customer derivative and the offsetting dealer positions. Gains and losses on customer-related derivatives are included in other noninterest income.

The Corporation utilizes interest rate swaps designated as cash flow hedges for risk management purposes to manage exposures that arise from business activities that result in the receipt or payment of future known and uncertain cash amounts, the value of which are determined by interest rates. These interest rate swaps designated as cash flow hedges are used to manage differences in the amount, timing and duration of the Corporation's known or expected cash receipts and its known or expected cash payments principally related to certain variable rate borrowings. The Corporation assesses the effectiveness of each hedging relationship by comparing the changes in cash flows of the derivative instruments with the changes in cash flows of the designated hedged transactions. The changes in fair value of derivatives designated and that qualify as cash flow hedges are recorded in accumulated other comprehensive income (loss) and are subsequently reclassified into earnings in the period that the hedged forecasted transaction affects earnings. For the Corporation's derivative instruments that are designated and qualify as a cash flow hedges, the gain or loss on the derivative instrument, as well as the offsetting loss or gain on the hedged item attributable to the hedged risk are recognized in current earnings in the same line item as the offsetting loss or gain on the related interest rate swaps. The Corporation expects the hedges to remain highly effective during the remaining terms of the swaps.

The Corporation additionally has written and purchased option derivatives consisting of instruments to facilitate an equity-linked time deposit product (the "Power Equity CD"). The Power Equity CD is a time deposit that provides the purchaser a guaranteed return of principal at maturity plus a potential equity return (a written option), while the Corporation receives a known stream of funds based on the equity return (a purchased option). The written and purchased options are mirror derivative instruments which are carried at fair value on the Consolidated Statements of Financial Position.

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The following table presents the notional amount and fair value of the Corporation's derivative instruments held or issued in connection with customer-initiated and mortgage banking activities.

(Dollars in thousands)	March 31, 2018			December 31, 2017		
	Notional Amount (1)	Fair Value		Notional Amount (1)	Fair Value	
		Gross Derivative Assets (2)	Gross Derivative Liabilities (2)		Gross Derivative Assets (2)	Gross Derivative Liabilities (2)
Risk management purposes:						
Derivatives designated as hedging instruments:						
Interest rate swaps	\$ 620,000	\$ 14,104	\$ —	\$ 620,000	\$ 5,899	\$ —
Total risk management purposes	620,000	14,104	—	620,000	5,899	—
Customer-initiated and mortgage banking derivatives:						
Customer-initiated derivatives	1,615,445	11,619	12,055	1,365,119	9,376	10,139
Forward contracts related to mortgage loans to be delivered for sale	137,066	—	404	115,996	—	34
Interest rate lock commitments	112,938	1,774	—	71,003	1,222	—
Power Equity CD	38,660	1,501	1,501	38,807	2,184	2,184
Total customer-initiated and mortgage banking derivatives	1,904,109	14,894	13,960	1,590,925	12,782	12,357
Total gross derivatives	<u>\$ 2,524,109</u>	<u>\$ 28,998</u>	<u>\$ 13,960</u>	<u>\$ 2,210,925</u>	<u>\$ 18,681</u>	<u>\$ 12,357</u>

⁽¹⁾ Notional or contract amounts, which represent the extent of involvement in the derivatives market, are used to determine the contractual cash flows required in accordance with the terms of the agreement. These amounts are typically not exchanged, significantly exceed amounts subject to credit or market risk and are not reflected in the Consolidated Statements of Financial Position.

⁽²⁾ Derivative assets are included within "Interest receivable and other assets" and derivative liabilities are included within "Interest payable and other liabilities" on the Consolidated Statements of Financial Position. Included in the fair value of the derivative assets are credit valuation adjustments for counterparty credit risk totaling \$416 thousand at March 31, 2018 and \$809 thousand at December 31, 2017.

In the normal course of business, the Corporation may decide to settle a forward contract rather than fulfill the contract. Cash received or paid in this settlement manner is included in "net gain on sale of loans and other mortgage banking revenue" in the Consolidated Statements of Income and is considered a cost of executing a forward contract.

The following table presents the net gains (losses) related to derivative instruments reflecting the changes in fair value.

(Dollars in thousands)	Location of Gain (Loss)	Three Months Ended March 31,	
		2018	2017
Forward contracts related to mortgage loans to be delivered for sale	Net gain (loss) on sale of loans and other mortgage banking revenue	\$ (370)	\$ (977)
Interest rate lock commitments	Net gain (loss) on sale of loans and other mortgage banking revenue	552	1,223
Customer-initiated derivatives	Other noninterest income	327	(231)
Total gain (loss) recognized in income		<u>\$ 509</u>	<u>\$ 15</u>

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The following table presents the net gains (losses) recorded in accumulated other comprehensive income and the Consolidated Statements of Income relating to interest rate swaps designated as cash flow hedges for the three months ended March 31, 2018. There were no interest rate swaps designated as cash flow hedges outstanding during the three months ended March 31, 2017.

<u>(Dollars in thousands)</u>	<u>Amount of gain (loss) recognized in other comprehensive income</u>	<u>Amount of gain (loss) reclassified from other comprehensive income to interest income or expense</u>
Three Months Ended March 31, 2018		
Interest rate swaps designated as cash flow hedges	\$ 7,963	\$ (242)

At March 31, 2018, the Corporation expected \$3.3 million of unrealized losses to be reclassified as an increase to interest expense during the following twelve months.

Methods and assumptions used by the Corporation in estimating the fair value of its forward contracts, interest rate lock commitments and customer-initiated derivatives are discussed in Note 2: Fair Value Measurements.

Balance Sheet Offsetting

Certain financial instruments, including customer-initiated derivatives and interest rate swaps, may be eligible for offset in the Consolidated Statements of Financial Position and/or subject to master netting arrangements or similar agreements. The Corporation is party to master netting arrangements with its financial institution counterparties; however, the Corporation does not offset assets and liabilities under these arrangements for financial statement presentation purposes based on an accounting policy election. The tables below present information about the Corporation's financial instruments that are eligible for offset.

<u>(Dollars in thousands)</u>	<u>Gross amounts recognized</u>	<u>Gross amounts offset in the statements of financial condition</u>	<u>Net amounts presented in the statements of financial position</u>	<u>Gross amounts not offset in the statements of financial position</u>		<u>Net Amount</u>
				<u>Financial instruments</u>	<u>Collateral (received)/posted</u>	
March 31, 2018						
Offsetting derivative assets						
Derivative assets ⁽¹⁾	\$ 25,698	\$ —	\$ 25,698	\$ —	\$ (17,243)	\$ 8,455
Offsetting derivative liabilities						
Derivative liabilities ⁽¹⁾	12,009	—	12,009	—	230	11,779
December 31, 2017						
Offsetting derivative assets						
Derivative assets ⁽¹⁾	\$ 15,228	\$ —	\$ 15,228	\$ —	\$ —	\$ 15,228
Offsetting derivative liabilities						
Derivative liabilities	10,139	—	10,139	—	1,081	9,058

⁽¹⁾ Amount does not include participated, forward contracts, interest rate lock commitments and power equity CDs as these instruments are not subject to master netting or similar arrangements.

Note 10: Investments in Qualified Affordable Housing Projects, Federal Historic Projects and New Market Tax Credits

The Corporation invests in qualified affordable housing projects, federal historic projects, and new market projects for the purpose of community reinvestment and obtaining tax credits. Return on the Corporation's investment in these projects comes in the form of the tax credits and tax losses that pass through to the Corporation. The carrying value of the investments is reflected in "Interest receivable and other assets" on the Consolidated Statements of Financial Position. The Corporation utilizes the proportional amortization method to account for investments in qualified affordable housing projects and the equity method to account for investments in other tax credit projects.

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Under the proportional amortization method, the Corporation amortizes the initial cost of the investment in proportion to the tax credits and other tax benefits. The Corporation recognized additional income tax expense attributable to the amortization of investments in qualified affordable housing projects of \$1.0 million and \$0.8 million during the three months ended March 31, 2018 and 2017, respectively. The Corporation's remaining investment in qualified affordable housing projects accounted for under the proportional amortization method totaled \$53.0 million at March 31, 2018 and \$51.4 million at December 31, 2017.

Under the equity method, the Corporation's share of the earnings or losses is included in "Other operating expenses" on the Consolidated Statements of Income. The Corporation's remaining investment in new market projects accounted for under the equity method totaled \$15.6 million and \$17.3 million at March 31, 2018 and December 31, 2017, respectively.

The Corporation's unfunded equity contributions relating to investments in qualified affordable housing projects, federal historic tax projects and new market projects is recorded in "Interest payable and other liabilities" on the Consolidated Statements of Financial Position. The Corporation's remaining unfunded equity contributions totaled \$46.8 million and \$48.1 million at March 31, 2018 and December 31, 2017, respectively.

Management analyzes these investments for potential impairment when events or changes in circumstances indicate that it is more-likely-than-not that the carrying amount of the investment will not be realized. An impairment loss is measured as the amount by which the carrying amount of an investment exceeds its fair value. During the three months ended March 31, 2018 a federal housing tax credit was placed into service resulting in an income tax benefit of \$1.5 million, partially offset by impairment expense of \$1.6 million, representing \$1.3 million net of tax, recorded in "other noninterest expense." There were no impairment losses recognized during the three months ended March 31, 2017.

The Corporation consolidates variable interest entities ("VIEs") in which it is the primary beneficiary. In general, a VIE is an entity that either (i) has an insufficient amount of equity to carry out its principal activities without additional subordinated financial support, (ii) has a group of equity owners that are unable to make significant decisions about its activities or (iii) has a group of equity owners that do not have the obligation to absorb losses or the right to receive returns as generated by its operations. If any of these characteristics are present, the entity is subject to a variable interest consolidation model, and consolidation is based on variable interests, not on ownership of the entity's outstanding voting stock. Variable interests are defined as contractual, ownership, or other monetary interests in an entity that change with fluctuations in the entity's net asset value. The primary beneficiary consolidates the VIE. The primary beneficiary is defined as the enterprise that has the power to direct the activities and absorb losses or the right to receive benefits. The Corporation is a significant limited partner in the qualified affordable housing, federal historic and new market projects it has invested in. These projects meet the definition of VIEs. However, the Corporation is not the primary beneficiary of any of the VIEs in which it holds a limited partnership interest; therefore, the VIEs are not consolidated in the Corporation's Consolidated Financial Statements.

Note 11: Commitments, Contingencies and Guarantees

Commitments

In the normal course of business, the Corporation offers a variety of financial instruments containing credit risk that are not required to be reflected in the Consolidated Statements of Financial Position. These financial instruments include outstanding commitments to extend credit, approved but undisbursed loans (undisbursed loan commitments), credit lines, commercial letters of credit and standby letters of credit. The Corporation has risk management policies to identify, monitor and limit exposure to credit risk. To mitigate credit risk for these financial guarantees, the Corporation generally determines the need for specific covenant, guarantee and collateral requirements on a case-by-case basis, depending on the nature of the financial instrument and the customer's creditworthiness.

At March 31, 2018 and December 31, 2017, the Corporation had \$189.7 million and \$187.6 million, respectively, of outstanding financial and performance standby letters of credit. The majority of these standby letters of credit are collateralized. The Corporation determined that there were no potential losses from standby letters of credit at March 31, 2018 and December 31, 2017.

Commitments to extend credit are agreements to lend to a customer provided there is no violation of any condition established in the commitment. Commitments generally have fixed expiration dates or other termination clauses and may not require payment of a fee. Since many commitments expire without being drawn upon, the total commitment amounts do not necessarily represent future cash requirements. The Corporation evaluates each customer's creditworthiness on an individual basis. The amount of collateral obtained, if deemed necessary by the Corporation upon extension of credit, is based on management's credit evaluation of the counterparty. The collateral held varies, but may include securities, real estate, accounts receivable, inventory, plant or equipment. Unfunded commitments under commercial lines of credit, revolving credit lines and overdraft

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protection agreements are included in commitments to extend credit. These lines of credit are generally not collateralized, usually do not contain a specified maturity date and may be drawn upon only to the total extent to which the Corporation is committed. At both March 31, 2018 and December 31, 2017, the Corporation had \$3.03 billion of commitments to extend credit. The Corporation had undisbursed loan commitments of \$492.4 million and \$571.0 million at March 31, 2018 and December 31, 2017, respectively. Undisbursed loan commitments are not included in loans on the Consolidated Statements of Financial Position. The majority of undisbursed loan commitments will be funded and convert to a portfolio loan within a one year period.

The allowance for credit losses on lending-related commitments included \$1.5 million and \$1.2 million at March 31, 2018 and December 31, 2017, respectively, for probable credit losses inherent in the Corporation's unused commitments and was recorded in "Interest payable and other liabilities" in the Consolidated Statements of Financial Position.

Contingencies and Guarantees

The Corporation has originated and sold certain loans, and additionally acquired the potential liability for those historical originated and sold loans by merged or acquired entities, for which the buyer has limited recourse to us in the event the loans do not perform as specified in the agreements. These loans had an outstanding balance of \$12.5 million and \$13.3 million at March 31, 2018 and December 31, 2017, respectively. The maximum potential amount of undiscounted future payments that the Corporation could be required to make in the event of nonperformance by the borrower totaled \$12.2 million and \$12.8 million at March 31, 2018 and December 31, 2017, respectively. In the event of nonperformance, the Corporation has rights to the underlying collateral securing the loans. At both March 31, 2018 and December 31, 2017, the Corporation had recorded a liability of \$0.2 million in connection with the recourse agreements, recorded in "Interest payable and other liabilities" in the Consolidated Statements of Financial Position.

Representations and Warranties

In connection with the Corporation's mortgage banking loan sales, and the historical sales of merged or acquired entities, the Corporation makes certain representations and warranties that the loans meet certain criteria, such as collateral type and underwriting standards. The Corporation may be required to repurchase individual loans and/or indemnify the purchaser against losses if the loan fails to meet established criteria. At March 31, 2018 and December 31, 2017, the liability recorded in connection with these representations and warranties totaled \$5.1 million and \$5.3 million, respectively.

A summary of the reserve for representations and warranties of the Corporation is as follows:

(Dollars in thousands)	Three Months Ended March 31,	
	2018	2017
Reserve balance at beginning of period	\$ 5,349	\$ 6,459
Reserve reduction	(244)	(770)
Charge-offs	—	—
Ending reserve balance	\$ 5,105	\$ 5,689
(Dollars in thousands)	March 31, 2018	December 31, 2017
Reserve balance		
Liability for specific claims	\$ 477	\$ 531
General allowance	4,628	4,818
Total reserve balance	\$ 5,105	\$ 5,349

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Note 12: Borrowings and Other Short-Term Liabilities

A summary of the Corporation's short- and long-term borrowings, and other short-term liabilities follows:

(Dollars in thousands)	March 31, 2018		December 31, 2017	
	Amount	Weighted Average Rate (1)	Amount	Weighted Average Rate (1)
Short-term borrowings:				
FHLB advances: 1.57% - 1.89% fixed-rate notes	\$ 2,050,000	1.75%	\$ 2,000,000	1.39%
Long-term borrowings:				
FHLB advances: 0.92% - 2.60% fixed-rate notes due 2018 to 2020 ⁽²⁾	337,179	1.26	337,204	1.26
Line-of-credit: floating-rate based on one-month LIBOR plus 1.75%	19,968	3.40	19,963	3.10
Subordinated debt obligations: floating-rate based on three-month LIBOR plus 1.45% - 2.85% due 2034 to 2035 ⁽³⁾	11,461	4.14	11,425	3.69
Subordinated debt obligations: floating-rate based on three-month LIBOR plus 3.25% due in 2032 ⁽⁴⁾	4,300	4.94	4,290	4.59
Total long-term borrowings	372,908	1.51	372,882	1.47
Total borrowings	\$ 2,422,908	1.71%	\$ 2,372,882	1.40%
Other short-term liabilities:				
Collateralized customer deposits	\$ 490,107	0.60%	\$ 415,236	0.44%

⁽¹⁾ Weighted average rate presented is the contractual rate which excludes premiums and discounts related to purchase accounting.

⁽²⁾ The March 31, 2018 balances include advances payable of \$337.0 million and purchase accounting premiums of \$0.2 million. The December 31, 2017 balance includes advances payable of \$337.0 million and purchase accounting premiums of \$0.2 million.

⁽³⁾ The March 31, 2018 balance includes advances payable of \$15.0 million and purchase accounting discounts of \$3.6 million. The December 31, 2017 balance includes advances payable of \$15.0 million and purchase accounting discounts of \$3.6 million.

⁽⁴⁾ The March 31, 2018 balance includes advances payable of \$5.0 million and purchase accounting discounts of \$0.7 million. The December 31, 2017 balance includes advances payable of \$5.0 million and purchase accounting discounts of \$0.7 million.

Chemical Bank is a member of the FHLB, which provides short- and long-term funding collateralized by mortgage related assets to its members. Each advance is payable at its maturity date, with a prepayment penalty for fixed-rate advances. The Corporation's FHLB advances, including both short-term and long-term, require monthly interest payments and are collateralized by commercial and residential mortgage loans totaling \$7.36 billion as of March 31, 2018. The Corporation's additional borrowing availability through the FHLB, subject to the FHLB's credit requirements and policies and based on the amount of FHLB stock owned by the Corporation, was \$143.6 million at March 31, 2018. Effective January 1, 2018, the Corporation adopted ASU 2016-01. As a result, the Corporation will continue to report FHLB and FRB stock at cost.

The line-of-credit agreement contains certain restrictive covenants. The Corporation was in compliance with all of the covenants at March 31, 2018.

Note 13: Revenue from Contracts with Customers

The Corporation earns a variety of revenue including interest and fees from customers as well as revenues from non-customers. Certain sources of revenue are recognized within interest income and are outside of the scope of ASC Topic 606, Revenue from Contracts with Customers ("ASC 606"). Other sources of revenue fall within the scope of ASC 606 and are mostly recognized within "Noninterest Income" in the Consolidated Statements of Income.

The Corporation recognizes revenue when the performance obligations related to the transfer of goods or services under the terms of a contract are satisfied. Some obligations are satisfied at a point in time while others are satisfied over a period of time. Revenue is recognized as the amount of consideration expected to be received in exchange for transferring goods or services to a customer and is segregated based on the nature of product and services offered as part of contractual arrangements. Revenue within the scope of ASC 606 are discussed below.

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- *Service charges and fees on deposit accounts* include fees and other charges the Corporation receives to provide various services, including but not limited to, maintaining an account with a customer, providing overdraft services, wire transfer, transferring funds, and accepting and executing stop-payment orders. The consideration includes both fixed (e.g., account maintenance fees) and transaction fees (i.e., wire-transfer fee). Fixed fees are recognized over the period of time the service is provided while transaction fees are recognized when a specific service is rendered to the customer.
- *Wealth management revenue* includes fee income generated from personal and institutional customers. The Corporation also provides investment management services. Services are rendered over a period of time, over which revenue is recognized. Wealth management revenue also includes commissions that are earned for placing a brokerage transaction for execution, such as stocks or other investments. Revenue is recognized once the transaction is completed and the Corporation is entitled to receive consideration.
- *Other charges and fees for customer services* includes service charges on deposit accounts and other fees including account analysis fees, monthly service fees, check orders, ATM fees and other service charges. The Corporation's performance obligation for account analysis fees and monthly service fees is generally satisfied, and therefore, revenue is recognized over the period in which the service is provided. Check orders and other deposit account related fees are largely transactional based, and therefore, the performance obligation is satisfied and related revenue recognized, at a point in time.
- *Other noninterest expense* includes net gain or loss on sales of other real estate and repossessed assets. Revenue is recognized at the time the sale is complete and the Corporation is entitled to receive consideration, including sales that are seller financed as receipt of all payment is expected.

The following table presents total noninterest income segregated between contracts with customers within the scope of ASC 606 and those within the scope of other GAAP Topics. The following additionally presents revenues from customers and non-customers that are included within noninterest income and expense.

(Dollars in thousands)	Three Months Ended March 31, 2018
Noninterest income	
Service charges and fees on deposit accounts	\$ 4,463
Wealth management revenue	784
Other charges and fees for customer services	2,398
Noninterest income from contracts with customers within the scope of ASC 606	7,645
Noninterest income within the scope of other GAAP topics	32,909
Total noninterest income	\$ 40,554
Noninterest expense	
Other	\$ (722)

Contract Balances

A contract asset balance occurs when an entity performs a service for a customer before the customer pays consideration (resulting in a contract receivable) or before payment is due (resulting in a contract asset). A contract liability balance is an entity's obligation to transfer a service to a customer for which the entity has already received payment (or payment is due) from the customer. The Corporation's noninterest income streams are largely based on transactional activity, or standard month-end revenue accruals such as asset management fees based on month-end market values. Consideration is most often received immediately or shortly after the Corporation satisfies its performance obligation and revenue is recognized. The Corporation does not typically enter into long-term revenue contracts with customers, and therefore, does not experience significant contract balances. As of March 31, 2018 and December 31, 2017, the Corporation did not have a material amount of contract balances.

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Note 14: Share-Based Compensation

The Corporation maintains share-based compensation plans under which it periodically grants share-based awards for a fixed number of shares to certain officers of the Corporation. The fair value of share-based awards is recognized as compensation expense over the requisite service or performance period. During the three months ended March 31, 2018 and 2017, share-based compensation expense related to share-based awards totaled \$1.7 million and \$3.8 million, respectively. The excess tax benefit realized from share-based compensation transactions during the three months ended March 31, 2018 and 2017 was \$1.4 million and \$6.1 million, respectively.

During the three months ended March 31, 2018, the Corporation granted 275,355 restricted stock units to certain officers of the Corporation.

On April 26, 2017, the shareholders of the Corporation approved the Stock Incentive Plan of 2017, which provides for 1,750,000 shares of the Corporation's common stock to be made available for future equity-based awards and canceled the amount of shares available for future grant under prior share-based compensation plans. At March 31, 2018, there were 1,346,965 shares of common stock available for future grants under the Stock Incentive Plan of 2017.

Stock Options

The Corporation issues stock options to certain officers from time to time. The exercise price on stock options equals the current market price of the Corporation's common stock on the date of grant and stock options expire ten years from the date of grant. Stock options granted after 2012 vest ratably over a five-year period. Stock options granted prior to 2013 generally vest ratably over a three-year period. Stock options granted prior to August 31, 2016 fully vested upon the merger with Talmer. Stock options assumed by the Corporation in the merger with Talmer Bancorp, Inc. on August 31, 2016 were fully vested prior to assumption.

A summary of activity for the Corporation's stock options as of and for the three months ended March 31, 2018 is presented below:

	Non-Vested Stock Options Outstanding			Stock Options Outstanding	
	Number of Options	Weighted- Average Exercise Price Per Share	Weighted- Average Grant Date Fair Value Per Share	Number of Options	Weighted- Average Exercise Price Per Share
Outstanding at December 31, 2017	330,870	\$ 37.97	\$ 7.09	1,110,918	\$ 29.56
Exercised	—	—	—	(186,434)	20.24
Vested	(77,388)	37.01	6.93	—	—
Outstanding at March 31, 2018	<u>253,482</u>	<u>\$ 38.26</u>	<u>\$ 7.14</u>	<u>924,484</u>	<u>\$ 31.44</u>
Exercisable/vested at March 31, 2018				<u>671,002</u>	<u>\$ 28.86</u>

The weighted-average remaining contractual terms were 6.5 years for all outstanding stock options and 5.9 years for exercisable stock options at March 31, 2018. The intrinsic value of all outstanding in-the-money stock options and exercisable in-the-money stock options was \$21.5 million and \$17.3 million, respectively, at March 31, 2018. The aggregate intrinsic values of outstanding and exercisable options at March 31, 2018 were calculated based on the closing market price of the Corporation's common stock on March 31, 2018 of \$54.68 per share less the exercise price. Options with intrinsic values less than zero, or "out-of-the-money" options, are not included in the aggregate intrinsic value reported. The total intrinsic value of stock options as of March 31, 2017 was \$29.0 million.

Total cash received from options exercises during the three months ended March 31, 2018 and 2017 was \$0.9 million and \$0.9 million, respectively, resulting in the issuance of 100,885 shares and 496,000 shares, respectively.

At March 31, 2018, unrecognized compensation expense related to stock options totaled \$1.8 million and is expected to be recognized over a remaining weighted average period of 3.3 years.

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Restricted Stock Units

The Corporation grants Performance-Based Restricted Stock Units ("PRSUs") and Time-Based Restricted Stock Units ("TRSUs") (collectively referred to as "RSUs") to certain officers from time to time. The PRSUs vest based on the Corporation achieving certain performance target levels and the grantee completing the requisite service period. The PRSUs are eligible to vest from 0.5x to 1.5x the number of units originally granted depending on which, if any, of the performance target levels are met. However, if the minimum performance target levels are not achieved, no shares will become vested or be issued for that respective year's PRSUs. The TRSUs vest upon satisfaction of a service condition. Upon achievement of the performance target level and/or satisfaction of a service condition, as applicable, the RSUs are converted into shares of the Corporation's common stock on a one-to-one basis. Compensation expense related to RSUs is recognized over the expected requisite performance or service period, as applicable.

A summary of the activity for RSUs as of and for the three months ended March 31, 2018 is presented below:

	Number of Units	Weighted-average grant date fair value per unit
Outstanding at December 31, 2017	380,940	\$ 41.29
Granted	275,355	54.28
Converted into shares of common stock	(61,342)	27.87
Outstanding at March 31, 2018	594,953	\$ 48.68

At March 31, 2018, unrecognized compensation expense related to RSUs totaled \$21.9 million and is expected to be recognized over a remaining weighted average period of 3.6 years.

Restricted Stock Awards

The Corporation assumed restricted stock awards in the merger with Talmer Bancorp, Inc. that vest upon completion of future service requirements. The fair value of these awards is equal to the market price of the Corporation's common stock at the date the awards were assumed with the portion of the fair value related to post-combination service. The Corporation recognizes stock-based compensation expense over the vesting period, using the straight-lined method, based upon the number of shares of restricted stock ultimately expected to vest. If an individual awarded restricted stock awards terminates employment prior to the end of the vesting period, the unvested portion of the stock is forfeited, with certain exceptions.

The following table provides information regarding nonvested restricted stock awards:

Nonvested restricted stock awards	Number of Awards	Weighted-average acquisition-date fair value
Nonvested at January 1, 2018	83,228	\$ 46.23
Vested	(41,614)	46.23
Nonvested at March 31, 2018	41,614	\$ 46.23

At March 31, 2018, unrecognized compensation expense related to nonvested restricted stock awards totaled \$1.7 million and is expected to be recognized over a remaining weighted average period of 0.9 years.

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Note 15: Pension and Other Postretirement Benefit Plans

The Corporation's retirement plans include a qualified defined benefit pension plan, a nonqualified pension plan, a nonqualified postretirement benefit plan, a 401(k) savings plan, and a multi-employer defined benefit plan.

Qualified Defined Benefit Pension Plan

The Chemical Financial Corporation Employees' Pension Plan (the "Pension Plan") was a qualified defined-benefit, noncontributory pension plan, which provided for postretirement pension benefits for certain salaried employees of the Corporation and its subsidiary, Chemical Bank. Benefits under the Pension Plan were partially frozen effective June 30, 2006. Under the partial freeze of the Pension Plan, benefits for employees with less than 15 years of service or whose combined age plus years of service were less than 65 at June 30, 2006, were based on years of vested service at June 30, 2006 and generally the average of the employee's salary for the five years ended June 30, 2006. In addition, no employee hired after January 1, 2006 was eligible to participate in the Pension Plan. Effective September 30, 2017, the Pension and Compensation Committee approved an amendment to the Pension Plan to cease accruing additional benefits under the existing pension benefit formula after the effective date and all accrued benefits were frozen. Retirement benefits under the Pension Plan were based on years of vested service at September 30, 2017, up to a maximum of thirty years, and the employee's average annual pay for the five highest consecutive years during the ten years preceding September 30, 2017, except for employees whose benefits were previously frozen during 2006.

Pension Plan benefits are the present value of estimated future periodic payments that are attributable to services rendered by the employees to the valuation date. Benefits include the benefits expected to be paid to (a) retired or terminated employees or their beneficiaries and (b) present employees or their beneficiaries. A discount rate of 3.68% was utilized for the projected benefit obligation as of March 31, 2018. The Pension Plan is fully funded as of March 31, 2018.

Nonqualified Pension Plan

The Corporation has a supplemental defined benefit nonqualified pension plan, the Chemical Financial Corporation Supplemental Pension Plan ("SERP"). The Corporation established the SERP to provide payments to certain executive officers of the Corporation, as determined by the Compensation and Pension Committee. The Internal Revenue Code limits both the amount of eligible compensation for benefit calculation purposes and the amount of annual benefits that may be paid from a tax qualified retirement plan. The SERP was designed to provide benefits to executive officers of the Corporation that would have been entitled, calculated under the provisions of the Pension Plan, as if the limits imposed by the Internal Revenue Code did not apply. The SERP is an unfunded plan and, therefore, has no assets.

Effective September 30, 2017, the Pension and Compensation Committee approved a curtailment to the SERP due to the retirement of the final remaining participant in the SERP. As of March 31, 2018, a \$0.4 million liability was included in other liabilities and recorded in the Consolidated Statements of Financial Position related to the SERP.

Nonqualified Postretirement Benefit Plan

The Corporation has a nonqualified postretirement benefit plan ("Postretirement Plan") that provides medical and dental benefits, upon retirement, to a limited number of active and retired employees. The majority of the retirees are required to make contributions toward the cost of their benefits based on their years of credited service and age at retirement. Beginning January 1, 2012, the Corporation amended the Postretirement Plan to extend coverage to employees who were at least age 50 as of January 1, 2012. These employees must also retire at age 60 or older, have at least twenty-five years of service with the Corporation and be participating in the active employee group health insurance plan in order to be eligible to participate in the Corporations' Postretirement Plan. Eligible employees may also cover their spouse until age 65 as long as the spouse is not offered health insurance coverage through his or her employer. Employees and their spouses eligible to participate in the Postretirement Plan will be required to make contributions toward the cost of their benefits upon retirement, with the contribution levels designed to cover the projected overall cost of these benefits over the long-term. Retiree contributions are generally adjusted annually. The accounting for these postretirement benefits anticipates changes in future cost-sharing features such as retiree contributions, deductibles, copayments and coinsurance. The Corporation reserves the right to amend, modify or terminate these benefits at any time.

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The components of net periodic benefit cost for the Corporation's qualified and nonqualified pension plans and nonqualified postretirement benefit plan are as follows:

(Dollars in thousands)	Three Months Ended March 31,	
	2018	2017
Defined Benefit Pension Plans		
Service cost ⁽¹⁾	\$ —	\$ 233
Interest cost	1,092	1,302
Expected return on plan assets	(2,220)	(2,217)
Amortization of unrecognized net loss	178	578
Net periodic benefit cost (income) ⁽²⁾	<u>\$ (950)</u>	<u>\$ (104)</u>
Postretirement Benefit Plan		
Service cost ⁽¹⁾	\$ 1	\$ 1
Interest cost	20	24
Amortization of unrecognized net gain	(36)	(41)
Net periodic benefit cost (income) ⁽²⁾	<u>\$ (15)</u>	<u>\$ (16)</u>

⁽¹⁾ Service cost is included in "Salaries, wages and employee benefits expense" on the Consolidated Statements of Income.

⁽²⁾ Net periodic benefit cost (income), excluding service cost is included "Other" operating expenses on the Consolidated Statements of Income.

401(k) Savings Plan

The Corporation's 401(k) Savings Plan is available to all employees and provides employees with tax deferred salary deductions and alternative investment options. Effective January 1, 2018, the Corporation provides a safe harbor matching contribution of the participants elective deferrals up to a maximum of 6.0% of eligible compensation up to the maximum amount allowed under the Internal Revenue Code. Prior to the January 1, 2018, the Corporation provided an employer match, in addition to a 4.0% contribution for all employees, with the exception of employees participating in the Pension Plan discussed above, during the time period they were eligible to earn service credits. The Corporation previously matched 50.0% of the participants elective deferrals on the first 4.0% of the participants' base compensation up to the maximum amount allowed under the Internal Revenue Code. The Corporation's match under the 401(k) Savings Plan was \$2.8 million and \$2.5 million for the three months ended March 31, 2018 and 2017, respectively.

The 401(k) Savings Plan provides employees with the option to invest in the Corporation's common stock.

Note 16: Regulatory Capital

Federal and state banking regulations place certain restrictions on the transfer of assets, in the form of dividends, loans, or advances, from Chemical Bank to the Corporation. As of March 31, 2018, substantially all of the assets of Chemical Bank were restricted from transfer to the Corporation in the form of loans or advances. Dividends from the bank are the principal source of funds for the Corporation. In addition to the statutory limits, the Corporation considers the overall financial and capital position of the bank prior to making any cash dividend decisions.

The Corporation and Chemical Bank are subject to various regulatory capital requirements administered by federal banking agencies. Under these capital requirements, Chemical Bank must meet specific capital guidelines that involve quantitative measures of assets and certain off-balance sheet items as calculated under regulatory accounting practices. In addition, capital amounts and classifications are subject to qualitative judgments by regulators. Failure to meet minimum capital requirements can initiate certain mandatory and possibly additional discretionary actions by regulators that, if undertaken, could have a direct material effect on the Consolidated Financial Statements. Management believes as of March 31, 2018, the Corporation and Chemical Bank met all capital adequacy requirements to which they are subject.

Quantitative measures established by regulation to ensure capital adequacy require minimum ratios of Tier 1 capital to average assets (Leverage Ratio) and Common Equity Tier 1, Tier 1 and Total capital to risk-weighted assets. These capital guidelines assign risk weights to on- and off-balance sheet items in arriving at total risk-weighted assets. Minimum capital levels are based

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upon the perceived risk of various asset categories and certain off-balance sheet instruments. Risk-weighted assets for the Corporation and Chemical Bank totaled \$14.84 billion and \$14.80 billion at March 31, 2018, respectively, compared to \$14.74 billion and \$14.70 billion at December 31, 2017, respectively.

Effective January 1, 2015, the Corporation adopted the Basel III regulatory capital framework as approved by federal banking agencies, which is subject to a multi-year phase-in period. The adoption of this new framework modified the calculation of the various capital ratios, added a new ratio, common equity tier 1, and revised the adequately and well capitalized thresholds. In addition, Basel III establishes a new capital conservation buffer of 2.5% of risk-weighted assets, which is phased-in over a four-year period beginning January 1, 2016. The capital conservation buffer for 2018 is 1.875% and was 1.25% for 2017. The Corporation has elected to opt-out of including accumulated other comprehensive income in common equity tier 1 capital.

At March 31, 2018 and December 31, 2017, Chemical Bank's capital ratios exceeded the quantitative capital ratios required for an institution to be considered "well-capitalized." Significant factors that may affect capital adequacy include, but are not limited to, a disproportionate growth in assets versus capital and a change in mix or credit quality of assets. There are no conditions or events since that notification that management believes have changed the institutions' category.

The summary below compares the actual capital amounts and ratios with the quantitative measures established by regulation to ensure capital adequacy:

(Dollars in thousands)	Actual		Minimum Required for Capital Adequacy Purposes		Minimum Required for Capital Adequacy Purposes Plus Capital Conservation Buffer		Required to be Well Capitalized Under Prompt Corrective Action Regulations	
	Capital Amount	Ratio	Capital Amount	Ratio	Capital Amount	Ratio	Capital Amount	Ratio
March 31, 2018								
Total Capital to Risk-Weighted Assets								
Corporation	\$ 1,662,561	11.2%	\$ 1,186,869	8.0%	\$ 1,465,041	9.9%	N/A	N/A
Chemical Bank	1,655,547	11.2	1,184,378	8.0	1,461,966	9.9	\$ 1,480,472	10.0%
Tier 1 Capital to Risk-Weighted Assets								
Corporation	1,544,016	10.4	890,152	6.0	1,168,324	7.9	N/A	N/A
Chemical Bank	1,552,763	10.5	888,283	6.0	1,165,872	7.9	1,184,378	8.0
Common Equity Tier 1 Capital to Risk-Weighted Assets								
Corporation	1,544,016	10.4	667,614	4.5	945,786	6.4	N/A	N/A
Chemical Bank	1,552,763	10.5	666,213	4.5	943,801	6.4	962,307	6.5
Leverage Ratio								
Corporation	1,544,016	8.4	731,240	4.0	731,240	4.0	N/A	N/A
Chemical Bank	1,552,763	8.5	730,292	4.0	730,292	4.0	912,865	5.0
December 31, 2017								
Total Capital to Risk-Weighted Assets								
Corporation	\$ 1,614,046	11.0%	\$ 1,179,076	8.0%	\$ 1,363,307	9.3%	N/A	N/A
Chemical Bank	1,613,087	11.0	1,176,361	8.0	1,360,167	9.3	\$ 1,470,451	10.0%
Tier 1 Capital to Risk-Weighted Assets								
Corporation	1,498,463	10.2	884,307	6.0	1,068,538	7.3	N/A	N/A
Chemical Bank	1,513,219	10.3	882,271	6.0	1,066,077	7.3	1,176,361	8.0
Common Equity Tier 1 Capital to Risk-Weighted Asset								
Corporation	1,498,463	10.2	663,230	4.5	847,461	5.8	N/A	N/A
Chemical Bank	1,513,219	10.3	661,703	4.5	854,509	5.8	955,793	6.5
Leverage Ratio								
Corporation	1,498,463	8.3	720,890	4.0	720,890	4.0	N/A	N/A
Chemical Bank	1,513,219	8.4	720,043	4.0	720,043	4.0	900,053	5.0

Chemical Financial Corporation
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On April 24, 2018, a cash dividend on the Corporation's common stock of \$0.28 per share was declared. The dividend will be paid on June 15, 2018 to shareholders of record as of June 1, 2018.

Note 17: Earnings Per Common Share

The two-class method is used in the calculation of basic and diluted earnings per share. Under the two-class method, earnings available to common shareholders for the period are allocated between common shareholders and participating securities according to dividends declared (or accumulated) and participating rights in undistributed earnings.

Average shares of common stock for diluted net income per common share include shares to be issued upon the exercise of stock options granted under the Corporation's share-based compensation plans, restricted stock units that may be converted to stock, restricted stock awards and stock to be issued under the deferred stock compensation plan for non-employee directors.

The factors used in the earnings per share computation follow:

(In thousands, except per share data)	Three Months Ended March 31,	
	2018	2017
Net income	\$ 70,170	\$ 47,604
Net income allocated to participating securities	64	226
Net income allocated to common shareholders ⁽¹⁾	<u>\$ 70,106</u>	<u>\$ 47,378</u>
Weighted average common shares - issued	71,297	70,969
Average unvested restricted share awards	(66)	(341)
Weighted average common shares outstanding - basic	71,231	70,628
Effect of dilutive securities		
Weighted average common stock equivalents	675	787
Weighted average common shares outstanding - diluted	<u>71,906</u>	<u>71,415</u>
EPS available to common shareholders		
Basic earnings per common share	<u>\$ 0.99</u>	<u>\$ 0.67</u>
Diluted earnings per common share	<u>\$ 0.97</u>	<u>\$ 0.67</u>

⁽¹⁾ Net income allocated to common shareholders for basic and diluted earnings per share may differ under the two-class method as a result of adding common share equivalents for options and warrants to dilutive shares outstanding, which alters the ratio used to allocate net income to common shareholders and participating securities for the purposes of calculating diluted earnings per share.

For effect of dilutive securities, the average stock valuation is \$56.23 per share and \$51.81 per share for the three months ended March 31, 2018 and 2017, respectively.

The average number of exercisable employee stock options outstanding that were "out-of-the-money," whereby the option exercise price per share exceeded the market price per share and, therefore, were not included in the computation of diluted earnings per common share because they would have been anti-dilutive totaled 71,046 and zero for the three months ended March 31, 2018 and 2017, respectively.

Chemical Financial Corporation
Notes to Consolidated Financial Statements (Unaudited)
March 31, 2018

Note 18: Accumulated Other Comprehensive Loss

The following table summarizes the changes within each component of accumulated other comprehensive income (loss), net of related tax benefit/expense for the three months ended March 31, 2018, and 2017:

(Dollars in thousands)	Unrealized gains (losses) on securities available-for-sale, net of tax	Defined Benefit Pension Plans	Unrealized gains (losses) on cash flow hedges, net of tax	Total
For the three months ended March 31, 2018				
Beginning balance at December 31, 2017	\$ (10,348)	\$ (19,808)	\$ 4,658	\$ (25,498)
Cumulative effect adjustment of change in accounting policy, net of tax impact ⁽¹⁾	(344)	—	3	(341)
Beginning balance at January 1, 2018	(10,692)	(19,808)	4,661	(25,839)
Other comprehensive income before reclassifications	(21,809)	—	6,291	(15,518)
Amounts reclassified from accumulated other comprehensive income	—	112	191	303
Net current period other comprehensive income	(21,809)	112	6,482	(15,215)
Ending balance	\$ (32,501)	\$ (19,696)	\$ 11,143	\$ (41,054)
For the three months ended March 31, 2017				
Beginning balance	\$ (14,142)	\$ (25,894)	\$ —	\$ (40,036)
Other comprehensive loss before reclassifications	1,780	—	—	1,780
Amounts reclassified from accumulated other comprehensive income	(58)	349	—	291
Net current period other comprehensive income (loss)	1,722	349	—	2,071
Ending balance	\$ (12,420)	\$ (25,545)	\$ —	\$ (37,965)

⁽¹⁾ Refer to Note 1, Basis of Presentation and Significant Accounting Policies, Note 3, Investment Securities, and Note 9, Derivative Instruments and Balance Sheet Offsetting, for further details on the changes in accounting policy.

The following table summarizes the amounts reclassified out of each component of accumulated other comprehensive income (loss) for the three months ended March 31, 2018, and 2017:

(Dollars in thousands)	Amounts Reclassified from Accumulated Other Comprehensive Income (Loss)		Affected Line Item in the Income Statement
	Three Months Ended March 31,		
	2018	2017	
Gains and losses on available-for-sale securities	\$ —	\$ 90	Net gain on sale of investment securities (noninterest income)
	—	(32)	Income tax (expense)/benefit
	\$ —	\$ 58	Net Income
Amortization of defined benefit pension plan items	\$ 142	\$ 537	Salaries, wages and employee benefits (operating expenses)
	(30)	(188)	Income tax (expense)/benefit
	\$ 112	\$ 349	Net Income
Gains and losses on cash flow hedges	\$ 242	\$ —	Interest on short-term borrowings (interest expense)
	(51)	—	Income tax (expense)/benefit
	\$ 191	\$ —	Net Income

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

The following is management's discussion and analysis of certain significant factors that have affected our financial condition and results of operations during the periods included in the Consolidated Financial Statements included in this report. This discussion should be read in conjunction with our Consolidated Financial Statements and accompanying footnotes appearing in this report and in conjunction with the financial statements and related notes and disclosures in our 2017 Annual Report on Form 10-K.

In this report, unless the context suggests otherwise, references to the "Corporation," "we," "us," and "our" mean the combined business of Chemical Financial Corporation and its subsidiary bank, Chemical Bank (the "Bank").

We have made, and will continue to make, various forward-looking statements with respect to financial and business matters. Comments regarding our business that are not historical facts are considered forward-looking statements that involve inherent risks and uncertainties. Actual results may differ materially from those contained in these forward-looking statements. For additional information regarding our cautionary disclosure, see the *"Cautionary Note Regarding Forward-Looking Statements"* on page 4 of this report.

Business Overview

Chemical Financial Corporation is a financial holding company headquartered in Midland, Michigan, that was incorporated in the State of Michigan in August 1973. Our common stock is listed on the NASDAQ under the symbol "CHFC." On June 30, 1974, we acquired Chemical Bank and Trust Company pursuant to a reorganization in which the former shareholders of Chemical Bank and Trust Company became shareholders of the Corporation. Chemical Bank and Trust Company's name was changed to Chemical Bank on December 31, 2005. At March 31, 2018, we had consolidated total assets of \$19.76 billion, total loans of \$14.22 billion, total deposits of \$13.97 billion and total shareholders' equity of \$2.70 billion, respectively.

Since our acquisition of Chemical Bank and Trust Company, we have acquired 25 community banks and 36 other branch bank offices through March 31, 2018. Our most recent transactions include our merger with Talmer Bancorp, Inc. ("Talmer") during the third quarter of 2016, and our acquisitions of Lake Michigan Financial Corporation ("Lake Michigan") and Monarch Community Bancorp, Inc. ("Monarch") during the second quarter of 2015.

Our business is concentrated in a single industry segment, commercial banking, which is conducted through our single commercial bank subsidiary, Chemical Bank. We offer a full range of traditional banking and fiduciary products and services to residents and business customers in our geographical market areas. These products and services include business and personal checking accounts, savings and individual retirement accounts, time deposit instruments, electronically accessed banking products, residential and commercial real estate financing, commercial lending, consumer financing, debit cards, safe deposit box services, money transfer services, automated teller machines, access to insurance and investment products, corporate and personal wealth management services, mortgage banking and other banking services. Chemical Bank operated through an internal organizational structure of seven regional banking units, organized by geography, as of March 31, 2018. In addition, we own, directly or indirectly, various non-bank operating and non-operating subsidiaries.

Critical Accounting Policies

Our Consolidated Financial Statements are prepared in accordance with United States generally accepted accounting principles ("GAAP"), Securities and Exchange Commission ("SEC") rules and interpretive releases and general practices within the industry in which we operate. Application of these principles requires management to make estimates, assumptions and complex judgments that affect the amounts reported in our Consolidated Financial Statements and accompanying notes. These estimates, assumptions and judgments are based on information available as of the date of the financial statements; accordingly, as this information changes, our Consolidated Financial Statements could reflect different estimates, assumptions and judgments. Actual results could differ significantly from those estimates. Certain policies inherently have a greater reliance on the use of estimates, assumptions and judgments and, as such, have a greater possibility of producing results that could be materially different than originally reported. We utilize third-party sources to assist with developing estimates, assumptions and judgments regarding certain amounts reported in our Consolidated Financial Statements and accompanying notes. When third-party sources are utilized, our management remains responsible for complying with GAAP. To execute management's responsibilities, we have processes in place to develop an understanding of the third-party methodologies and to design and implement specific internal controls over valuation.

We have identified the determination of the allowance for loan losses, accounting for acquired loans, income and other taxes and the valuation of loan servicing rights to be the accounting areas that require the most subjective or complex judgments and, as such, could be most subject to revision as new or additional information becomes available or circumstances change.

including overall changes in the economic climate and/or market interest rates. Therefore, we consider them to be critical accounting policies and discusses them directly with the Audit Committee of the board of directors.

Our significant accounting policies are more fully described in Note 1 to the audited Consolidated Financial Statements contained in our Annual Report on Form 10-K for the year ended December 31, 2017, and the more significant assumptions and estimates made by us are more fully described in "Management's Discussion and Analysis of Financial Condition and Results of Operations - Critical Accounting Policies" in our Annual Report on Form 10-K for the year ended December 31, 2017. There were no material changes to our significant accounting policies or the estimates made pursuant to those policies during the most recent quarter.

Branch Consolidation

On September 7, 2017, we initiated a restructuring effort that included the consolidation of 25 branch offices in the fourth quarter of 2017. These branch consolidations were in addition to 13 branches consolidated during the third quarter of 2017. At March 31, 2018, we operated a total of 212 branches.

Accounting Standards Updates

See Note 1 to our Consolidated Financial Statements included in this report for details of the accounting pronouncements adopted during the three months ended March 31, 2018 and year ended and December 31, 2017. See the following section for a description and expected impacts of pronouncements that have been released but we have not yet adopted.

Pending Accounting Pronouncements

Standard	Description	Required Adoption Date	Expected impact on the financial statements
ASU No. 2016-02 - Leases (Topic 842)	The standard requires the recognition of the following for all leases (with the exception of short-term leases): (a) a right to use asset, which is an asset that represents the lessee's right to use, or control the use of a specified asset for the lease term and (b) a lease liability, which is a liability that represents the lessee's obligation to make lease payments arising for a lease, measured on a discounted basis.	January 1, 2019, early adoption permitted	The adoption is not expected to have a material impact on our results of operations, but is anticipated to result in a material increase in our assets and liabilities.
ASU No. 2018-01 - Leases (Topic 842): Land Easement Practical Expedient for Transition to Topic 842			
ASU No. 2016-13 - Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments	This standard requires financial assets to be measured at net of amortized cost and a credit loss allowance. The measurement of expected credit loss should be based on 2020, early relevant information about past events, current conditions, and reasonable forecasts. adoption The standard also eliminates the probable recognition threshold for credit losses of permitted as of financial assets measured at amortized cost. Additionally an allowance will be January 1, recognized for purchased credit-deteriorated assets through a gross-up approach 2019 measuring the amortized cost as the sum of purchase price and estimated credit loss at the acquisition date. Adjustments in allowance will be recognized immediately in earnings. The new required disclosures include: (a) how an entity developed its allowance for financial assets measured at amortized cost, (b) information about the credit quality for financial receivable and net investments in leases measured at amortized cost, and (c) provide an allowance roll-forward for available-for-sale securities and an aging analysis for securities past due.	January 1, 2020, early adoption permitted	Upon adoption, a cumulative-effect adjustment to retained earnings will be recorded as of the beginning of the first reporting period in which the guidance is effective. We are currently evaluating the provisions of ASU 2016-13 to determine the potential impact on our consolidated financial condition and results of operations.
ASU No. 2017-04, Intangible - Goodwill and Other (Topic 350)	Accounting for goodwill impairment is simplified by removing Step 2 of the goodwill impairment test, which requires a hypothetical purchase price allocation. Subsequent to the adoption, goodwill impairment will be the amount by which a reporting unit's carrying value exceeds its fair value, not to exceed the carrying amount of goodwill. All permitted other goodwill impairment guidance largely remains unchanged.	January 1, 2020, early adoption permitted	Adoption is not expected to have a material impact on our consolidated financial condition or results of operations.
ASU No. 2017-06, Plan Accounting: Defined Benefit Pension Plans (Topic 960)	This update clarifies the reporting requirements by an employee benefit plan for its interest in a master trust and removes redundancy relating to 401(h) account disclosures. The amendment requires a plan's interest in a master trust to be presented in separate line items in the statement of net assets available and in the statement of changes in net assets available. Additionally the requirement to disclose the percentage interest in the master trust is removed and replaced by the required disclosure of the dollar amount of interest in each investment type.	January 1, 2019, early adoption permitted	Adoption is not expected to have a material impact on our consolidated financial condition or results of operations.

Chemical Financial Corporation
Selected Financial Information
(Unaudited)

(Dollars in thousands, except per share data)	Three Months Ended		
	March 31, 2018	December 31, 2017	March 31, 2017
Summary of Operations			
Interest income	\$ 177,934	\$ 169,162	\$ 142,896
Interest expense	26,071	23,257	12,799
Net interest income	151,863	145,905	130,097
Provision for loan losses	6,256	7,522	4,050
Net interest income after provision for loan losses	145,607	138,383	126,047
Noninterest income	40,554	32,319	38,010
Operating expenses, core (non-GAAP) ⁽¹⁾⁽²⁾	101,724	91,298	100,029
Merger expenses	—	1,511	4,167
Restructuring expenses	—	1,056	—
Impairment of income tax credits	1,634	6,157	—
Income before income taxes	82,803	70,680	59,861
Income tax expense	12,633	61,234	12,257
Net income	\$ 70,170	\$ 9,446	\$ 47,604
Significant items, net of tax (non-GAAP) ⁽¹⁾⁽³⁾	—	53,240	2,709
Net income, excluding significant items (non-GAAP) ⁽¹⁾⁽³⁾	\$ 70,170	\$ 62,686	\$ 50,313
Per Common Share Data			
Net income:			
Basic	\$ 0.99	\$ 0.13	\$ 0.67
Diluted	0.97	0.13	0.67
Diluted, excluding significant items (non-GAAP) ⁽¹⁾⁽³⁾	0.97	0.87	0.70
Cash dividends declared	0.28	0.28	0.27
Book value at end of period	37.89	37.48	36.56
Tangible book value per share at end of period (non-GAAP) ⁽¹⁾	21.66	21.21	20.32
Market value at end of period	54.68	53.47	51.15
Key Ratios (annualized where applicable)			
Net interest margin	3.51%	3.39%	3.41%
Net interest margin (fully taxable equivalent) (non-GAAP) ⁽¹⁾⁽⁴⁾	3.56%	3.47%	3.49%
Efficiency ratio (GAAP)	53.7%	56.1%	62.0%
Efficiency ratio adjusted (non-GAAP) ⁽¹⁾	52.5%	47.4%	57.4%
Return on average assets	1.44%	0.20%	1.09%
Return on average shareholders' equity	10.5%	1.4%	7.4%
Return on average tangible shareholders' equity (non-GAAP) ⁽¹⁾	18.6%	16.5%	14.1%
Average shareholders' equity as a percent of average assets	13.7%	13.9%	14.8%
Capital ratios (period end):			
Tangible shareholders' equity as a percent of tangible assets (non-GAAP) ⁽¹⁾	8.3%	8.3%	8.8%
Total risk-based capital ratio	11.2%	11.0%	11.4%

(1) Denotes a non-GAAP Financial Measure. Please refer to section entitled "Non-GAAP Financial Measures" included within this Management's Discussion and Analysis of Financial Condition and Results of Operations for a reconciliation to the most directly comparable GAAP financial measure.

(2) Excludes merger expenses, restructuring expenses and impairment of income tax credits.

(3) "Significant items" are defined to be merger and restructuring expenses, the fourth quarter of 2017 charge to income tax expense resulting from the revaluation of our net deferred tax assets completed following the signing of the Tax Cuts and Jobs Act in December 2017 and fourth quarter of 2017 losses on sales of investment securities as part of our treasury and tax management objectives.

(4) Presented on a tax equivalent basis using a 35% tax rate for each periods presented during 2017 and 21% tax rate for the 2018 periods presented.

Non-GAAP Financial Measures

This report contains references to financial measures that are not defined in GAAP. Such non-GAAP financial measures include our operating expenses, core (which excludes merger expenses, restructuring expenses and impairment of income tax credits); tangible book value per share; tangible shareholders' equity; presentation of net interest income and net interest margin on a fully taxable equivalent (FTE) basis; operating expenses and efficiency ratio (which excludes merger expenses, restructuring expenses, impairment of income tax credits and amortization of intangibles); the adjusted efficiency ratio (which excludes merger expenses, restructuring expenses, impairment of income tax credits, amortization of intangibles, net interest FTE adjustments, the change in fair value of loan servicing rights and gains and losses from sale of investment securities) and other information presented excluding significant items (merger expenses, restructuring expenses, loss on sale of investment securities and revaluation of net deferred tax assets) including net income, diluted earnings per share, return on average assets, return on average shareholders' equity and return on average tangible shareholders' equity. Management believes these non-GAAP financial measures (a) provide important supplemental information that contributes to a proper understanding of our operating performance, (b) enable a more complete understanding of factors and trends affecting our business, and (c) allow investors to evaluate our performance in a manner similar to management, the financial services industry, bank stock analysts, and bank regulators. Management uses non-GAAP measures as follows: in the preparation of our operating budgets, monthly financial performance reporting, and in our presentation to investors of our performance. Limitations associated with non-GAAP financial measures include the risk that persons might disagree as to the appropriateness of items comprising these measures and that different companies might calculate these measures differently. These disclosures should not be considered an alternative to our GAAP results.

A reconciliation of non-GAAP financial measures to the most directly comparable GAAP financial measures is presented below. A reconciliation of net interest income and net interest margin (FTE) to the most directly comparable GAAP financial measure can be found under the subheading "Average Balances, Fully Taxable Equivalent (FTE) Interest and Effective Yields and Rates" of this report.

(Dollars in thousands, except per share data)	Three Months Ended		
	March 31, 2018	December 31, 2017	March 31, 2017
Reconciliation of Non-GAAP Operating Results			
Net Income			
Net income, as reported	\$ 70,170	\$ 9,446	\$ 47,604
Merger expenses	—	1,511	4,167
Restructuring expenses	—	1,056	—
Loss on sales of investment securities ⁽¹⁾	—	7,556	—
Significant items	—	10,123	4,167
Income tax benefit ⁽²⁾	—	(3,543)	(1,458)
Revaluation of net deferred tax assets	—	46,660	—
Significant items, net of tax	—	53,240	2,709
Net income, excluding significant items	\$ 70,170	\$ 62,686	\$ 50,313
Diluted Earnings Per Share			
Diluted earnings per share, as reported	\$ 0.97	\$ 0.13	\$ 0.67
Effect of significant items, net of tax	—	0.74	0.03
Diluted earnings per share, excluding significant items	\$ 0.97	\$ 0.87	\$ 0.70
Return on Average Assets			
Return on average assets, as reported	1.44%	0.20%	1.09%
Effect of significant items, net of tax	—	1.11	0.06
Return on average assets, excluding significant items	1.44%	1.31%	1.15%
Return on Average Shareholders' Equity			
Return on average shareholders' equity, as reported	10.5%	1.4%	7.4%
Effect of significant items, net of tax	—	8.0	0.4
Return on average shareholders' equity, excluding significant items	10.5%	9.4%	7.8%
Return on Average Tangible Shareholders' Equity			
Average shareholders' equity	\$ 2,668,325	\$ 2,676,029	\$ 2,584,501
Average goodwill, CDI and noncompete agreements, net of tax	1,158,084	1,156,122	1,155,177
Average tangible shareholders' equity	\$ 1,510,241	\$ 1,519,907	\$ 1,429,324
Return on average tangible shareholders' equity	18.6%	2.5%	13.3%
Effect of significant items, net of tax	—	14.0	0.8
Return on average tangible shareholders' equity, excluding significant items	18.6%	16.5%	14.1%
Efficiency Ratio			
Net interest income	\$ 151,863	\$ 145,905	\$ 130,097
Noninterest income	40,554	32,319	38,010
Total revenue - GAAP	192,417	178,224	168,107
Net interest income FTE adjustment	2,227	3,580	3,068
Loan servicing rights change in fair value (gains) losses	(3,752)	13	519
Losses (gains) from sale of investment securities	—	7,556	(90)
Total revenue - Non-GAAP	\$ 190,892	\$ 189,373	\$ 171,604
Operating expenses - GAAP	\$ 103,358	\$ 100,022	\$ 104,196
Merger expenses	—	(1,511)	(4,167)
Restructuring expenses	—	(1,056)	—
Impairment of income tax credits	(1,634)	(6,157)	—
Operating expense, core - Non-GAAP	101,724	91,298	100,029
Amortization of intangibles	(1,439)	(1,525)	(1,513)
Operating expenses, efficiency ratio - Non-GAAP	\$ 100,285	\$ 89,773	\$ 98,516
Efficiency ratio - GAAP	53.7%	56.1%	62.0%
Efficiency ratio - adjusted Non-GAAP	52.5%	47.4%	57.4%

(1) Fourth quarter of 2017 losses on sales of investment securities are deemed a significant item for 2017 as they were taken as part of our treasury and tax management objectives associated with the Tax Cuts and Jobs Act.

(2) Assumes merger expenses are deductible at an income tax rate of 35% for each quarter of 2017.

(Dollars in thousands, except per share data)	March 31, 2018	December 31, 2017	March 31, 2017
Tangible Book Value			
Shareholders' equity, as reported	\$ 2,703,277	\$ 2,668,749	\$ 2,600,051
Goodwill, CDI and noncompete agreements, net of tax	(1,157,505)	(1,158,738)	(1,154,915)
Tangible shareholders' equity	\$ 1,545,772	\$ 1,510,011	\$ 1,445,136
Common shares outstanding	71,350	71,207	71,118
Book value per share (shareholders' equity, as reported, divided by common shares outstanding)	\$ 37.89	\$ 37.48	\$ 36.56
Tangible book value per share (tangible shareholders' equity divided by common shares outstanding)	\$ 21.66	\$ 21.21	\$ 20.32
Tangible Shareholders' Equity to Tangible Assets			
Total assets, as reported	\$ 19,756,084	\$ 19,280,873	\$ 17,636,973
Goodwill, CDI and noncompete agreements, net of tax	(1,157,505)	(1,158,738)	(1,154,915)
Tangible assets	\$ 18,598,579	\$ 18,122,135	\$ 16,482,058
Shareholders' equity to total assets	13.7%	13.8%	14.7%
Tangible shareholders' equity to tangible assets	8.3%	8.3%	8.8%

Statements of Financial Position Review

Overview

Total assets were \$19.76 billion at March 31, 2018, an increase of \$0.48 billion, or 2.5%, from total assets of \$19.28 billion at December 31, 2017. The increase in total assets during the three months ended March 31, 2018 was primarily attributable to an increase in our investment securities portfolio.

Interest-earning assets were \$17.60 billion at March 31, 2018, an increase of \$0.53 billion, or 3.1%, from interest-earning assets of \$17.08 billion at December 31, 2017. The increase in interest-earnings assets during the three months ended March 31, 2018 was primarily attributable to an increase in investment securities and loan growth.

Average assets were \$19.46 billion during the three months ended March 31, 2018, an increase of \$1.98 billion, or 11.4%, compared to average assets of \$17.47 billion during the three months ended March 31, 2017. The increase in average assets during the three months ended March 31, 2018, compared to the three months ended March 31, 2017, reflects our long-term plan to increase our investment securities portfolio as a percentage of total assets. The increase in our investment securities portfolio during the three months ended March 31, 2018 also includes the remaining reinvestment of proceeds from our sales of certain securities in a loss position which occurred during the fourth quarter of 2017 as part of our treasury and tax management objectives.

Investment Securities

The following tables summarize the maturities and yields of the carrying value of debt securities by investment category, and fair value by investment category, at March 31, 2018 and December 31, 2017:

	Maturity as of March 31, 2018 ⁽¹⁾								Total Carrying Value ⁽²⁾		Total Fair Value
	Within One Year		After One but Within Five Years		After Five but Within Ten Years		After Ten Years		Amount	Yield ⁽³⁾	
(Dollars in thousands)	Amount	Yield ⁽³⁾	Amount	Yield ⁽³⁾	Amount	Yield ⁽³⁾	Amount	Yield ⁽³⁾	Amount	Yield ⁽³⁾	
Available-for-Sale:											
Government sponsored agencies	26,183	2.68	78,514	2.64	59,381	2.63	28,940	2.70	193,018	2.65	193,018
State and political subdivisions	11,628	1.88	59,124	1.34	133,163	1.74	206,486	2.68	410,401	2.16	410,401
Residential mortgage-backed securities	18,271	2.50	59,238	2.53	39,398	2.60	25,827	2.67	142,734	2.57	142,734
Collateralized mortgage obligations	183,382	2.90	531,263	2.87	366,705	2.95	196,626	2.90	1,277,976	2.90	1,277,976
Corporate bonds	10,844	1.93	50,732	2.28	173,340	3.82	—	—	234,916	3.40	234,916
Trust preferred securities	—	—	—	—	22,995	4.33	13,276	3.55	36,271	4.04	36,271
Total debt securities available-for-sale	<u>250,308</u>	<u>2.76</u>	<u>778,871</u>	<u>2.67</u>	<u>794,982</u>	<u>2.94</u>	<u>471,155</u>	<u>2.80</u>	<u>2,295,316</u>	<u>2.80</u>	<u>2,295,316</u>
Held-to-Maturity:											
State and political subdivisions	83,346	1.68	241,147	2.09	161,954	2.67	189,900	2.52	676,347	2.30	663,196
Trust preferred securities	—	—	—	—	—	—	500	4.75	500	4.75	425
Total investment securities held-to-maturity	<u>83,346</u>	<u>1.68</u>	<u>241,147</u>	<u>2.09</u>	<u>161,954</u>	<u>2.67</u>	<u>190,400</u>	<u>2.53</u>	<u>676,847</u>	<u>2.30</u>	<u>663,621</u>

- (1) Residential mortgage-backed securities, collateralized mortgage obligations and certain government sponsored agencies are based on scheduled principal maturity. All other investment securities are based on final contractual maturity.
- (2) The aggregate book value of securities issued by any single issuer, other than the U.S. government and government sponsored agencies, did not exceed 10% of our shareholders' equity.
- (3) Yields are weighted by amount and time to contractual maturity, are on a taxable equivalent basis using a 21% federal income tax rate and are based on carrying value. Yields disclosed are actual yields based on carrying value at March 31, 2018. Approximately 4% of the Corporation's investment securities at March 31, 2018 were variable-rate financial instruments.

(Dollars in thousands)	Maturity as of December 31, 2017 ⁽¹⁾								Total Carrying Value ⁽²⁾	Total Fair Value	
	Within One Year		After One but Within Five Years		After Five but Within Ten Years		After Ten Years				
	Amount	Yield ⁽³⁾	Amount	Yield ⁽³⁾	Amount	Yield ⁽³⁾	Amount	Yield ⁽³⁾			
Available-for-Sale:											
Government sponsored agencies	30,241	2.29%	81,106	2.39%	61,461	2.43%	30,108	2.43%	202,916	2.39%	202,916
State and political subdivisions	9,219	2.55	60,691	2.14	115,623	2.63	160,437	3.70	345,970	3.04	345,970
Residential mortgage-backed securities	21,922	2.44	66,510	2.46	38,594	2.52	23,105	2.58	150,131	2.49	150,131
Collateralized mortgage obligations	223,295	2.65	500,467	2.61	231,658	2.74	78,425	2.98	1,033,845	2.68	1,033,845
Corporate bonds	13,968	1.73	37,308	2.01	141,518	3.68	—	—	192,794	3.22	192,794
Trust preferred securities	—	—	—	—	22,967	3.62	13,099	2.93	36,066	3.37	36,066
Total debt securities available-for-sale	<u>298,645</u>	<u>2.55</u>	<u>746,082</u>	<u>2.50</u>	<u>611,821</u>	<u>2.92</u>	<u>305,174</u>	<u>3.27</u>	<u>1,961,722</u>	<u>2.76</u>	<u>1,961,722</u>
Held-to-Maturity:											
State and political subdivisions	89,359	2.33	237,113	3.12	152,299	3.92	197,822	3.64	676,593	3.35	662,516
Trust preferred securities	—	—	—	—	—	—	500	4.75	500	4.75	390
Total investment securities held-to-maturity	<u>89,359</u>	<u>2.33</u>	<u>237,113</u>	<u>3.12</u>	<u>152,299</u>	<u>3.92</u>	<u>198,322</u>	<u>3.64</u>	<u>677,093</u>	<u>3.35</u>	<u>662,906</u>

- (1) Residential mortgage-backed securities, collateralized mortgage obligations and certain government sponsored agencies are based on scheduled principal maturity. All other investment securities are based on final contractual maturity.
- (2) The aggregate book value of securities issued by any single issuer, other than the U.S. government and government sponsored agencies, did not exceed 10% of our shareholders' equity.
- (3) Yields are weighted by amount and time to contractual maturity, are on a taxable equivalent basis using a 35% federal income tax rate and are based on carrying value. Yields disclosed are actual yields based on carrying value at December 31, 2017. Approximately 4% of the Corporation's investment securities at December 31, 2017 were variable-rate financial instruments.

We utilize third-party pricing services to obtain market value prices for our investment securities portfolio. On a quarterly basis, we validate the reasonableness of prices received from third-party pricing services through independent price verification on a sample of investment securities in the portfolio, data integrity validation based upon comparison of current market prices to prior period market prices and analysis of overall expectations of movement in market prices based upon the changes in the related yield curves and other market factors. On an annual basis, we review the pricing methodology of the third-party pricing vendors and the results of the vendors' internal control assessments to ensure the integrity of the process that each vendor uses to develop market pricing for our investment securities portfolio.

The carrying value of investment securities totaled \$2.97 billion at March 31, 2018, an increase of \$333.3 million, or 12.6%, from investment securities of \$2.64 billion at December 31, 2017, primarily due to our reinvestment of the proceeds from our fourth quarter of 2017 sales of approximately \$400 million of securities in a loss position as part of our treasury and tax management objectives following the signing of the Tax Cuts and Jobs Act and additional investment in our investment securities portfolio, which reflects our long-term plan to increase our investment securities portfolio as a percentage of total assets.

Our investment securities portfolio as of March 31, 2018 had a weighted average life of approximately 5.5 years and an effective duration of approximately 2.9 years.

The following table summarizes the carrying value of investment securities at March 31, 2018 and December 31, 2017:

(Dollars in thousands)	March 31, 2018	December 31, 2017
Carried at Fair Value:		
Government sponsored agencies	\$ 193,018	\$ 202,916
State and political subdivisions	410,401	345,970
Residential mortgage-backed securities	142,734	150,131
Collateralized mortgage obligations	1,277,976	1,033,845
Corporate bonds	234,916	192,794
Preferred stock and trust preferred securities	36,271	36,066
Preferred stock	1,807	1,824
Total investment securities carried at fair value	<u>2,297,123</u>	<u>1,963,546</u>
Held-to-maturity:		
State and political subdivisions	676,347	676,593
Trust preferred securities	500	500
Total investment securities held-to-maturity	<u>676,847</u>	<u>677,093</u>
Total investment securities	<u>\$ 2,973,970</u>	<u>\$ 2,640,639</u>

At March 31, 2018, our investment securities portfolio consisted of: Government sponsored agency (GSA) debt obligations, comprised primarily of fixed-rate instruments backed by Federal Home Loan Banks, Federal Farm Credit Banks and the Student Loan Marketing Corporation, totaling \$193.0 million; state and political subdivisions debt obligations, comprised primarily of general debt obligations of issuers mostly located in the State of Michigan, totaling \$1.09 billion; residential mortgage-backed securities (MBSs), comprised primarily of fixed-rate instruments backed by a U.S. government agency (Government National Mortgage Association) or government sponsored enterprises (Federal Home Loan Mortgage Corporation and Federal National Mortgage Association), totaling \$142.7 million; collateralized mortgage obligations (CMOs), comprised of approximately 82.8% fixed-rate and 17.2% variable-rate instruments backed by the same U.S. government agency and government sponsored enterprises as the residential MBSs, totaling \$1.28 billion; corporate bonds, comprised primarily of debt obligations of large U.S. global financial organizations, totaling \$234.9 million; and preferred stock and trust preferred securities (TRUPs), comprised of preferred stock debt instruments of two large regional/national banks and variable-rate TRUPs from both publicly-traded bank holding companies and small non-public bank holding companies, totaling \$38.6 million. Fixed-rate instruments comprised approximately 95.9% of our investment securities portfolio at March 31, 2018.

We record investment securities in accordance with ASC Topic 320, Investments - Debt Securities under which we are required to assess securities that have fair values below their amortized cost basis to determine whether the decline (impairment) is other-than-temporary. An assessment is performed quarterly to determine whether unrealized losses in our debt securities portfolio are temporary or other-than-temporary by considering all reasonably available information. We review factors such as financial statements, credit ratings, news releases and other pertinent information of the underlying issuer or company to make our determination. In assessing whether a decline is other-than-temporary, management considers, among other things, (i) the length of time and the extent to which the fair value has been less than the amortized cost, (ii) the financial condition and near-term prospects of the issuer, (iii) the potential for impairments in an entire industry or sub-sector and (iv) the potential for impairments in certain economically depressed geographical locations.

Our total investment securities portfolio had a carrying value of \$2.97 billion at March 31, 2018, with gross unrealized losses of \$59.5 million at that date. We believe that the unrealized losses on debt securities at March 31, 2018 were temporary in nature and due primarily to changes in interest rates on the investment securities and market illiquidity, and not as a result of credit-related issues. Accordingly, we believe the unrealized losses in our debt securities portfolio at March 31, 2018 were temporary in nature and, therefore, no impairment loss was recognized in our Consolidated Statements of Income for the three months ended March 31, 2018. However, other-than-temporary impairment (OTTI) may occur in the future as a result of material declines in the fair value of investment securities resulting from market, credit, economic or other conditions. A further discussion of the assessment of potential impairment and our process that resulted in the conclusion that the impairment was temporary in nature follows.

At March 31, 2018, the gross unrealized losses in our debt securities portfolio of \$59.5 million were comprised as follows: state and political subdivisions securities of \$26.7 million; GSA securities, residential MBSs and CMOs, combined, of \$28.1 million; corporate bonds of \$4.6 million; and TRUPs of \$0.1 million. The amortized costs and fair values of investment securities are disclosed in Note 3 to the Consolidated Financial Statements.

State and political subdivisions securities, included in the available-for-sale and the held-to-maturity investment securities portfolios, had an amortized cost of \$1.10 billion and gross unrealized losses of \$26.7 million at March 31, 2018. Our state and political subdivisions securities are almost entirely from issuers located in the State of Michigan and of which approximately 90.4% are general obligations of the issuer, meaning that repayment of these obligations is funded by general tax collections of the issuer. The gross unrealized losses were attributable to state and political subdivisions securities with an amortized cost of \$952.2 million that generally mature beyond 2018. It was our assessment that the unrealized losses on these investment securities were attributable to current market interest rates being slightly higher than the yield on these investment securities and illiquidity in the market due to the nature of a portion of these investment securities. We concluded that the unrealized losses in our state and political subdivisions securities were temporary in nature at March 31, 2018.

GSA securities, residential MBSs and CMOs, included in the available-for-sale investment securities portfolio, had a combined amortized cost of \$1.64 billion and gross unrealized losses of \$28.1 million at March 31, 2018. Virtually all of the investment securities in these categories are backed by the full faith and credit of the U.S. government or a guarantee of a U.S. government agency or government sponsored enterprise. We determined that the unrealized losses on these investment securities were attributable to current market interest rates being higher than the yields being earned on these investment securities. We concluded that the unrealized losses in our GSA securities, residential MBSs and CMOs were temporary in nature at March 31, 2018.

Corporate bonds included in the available-for-sale investment securities portfolio had an amortized cost of \$238.7 million and gross unrealized losses of \$4.6 million at March 31, 2018. The investment securities in this category are investment grade securities and none have had recent downgrades. We determined that the unrealized losses on these investment securities were attributable to current market interest rates being higher than the yields being earned on these investment securities. We concluded that the unrealized loss was temporary in nature at March 31, 2018.

At March 31, 2018, we held one TRUP in the held-to-maturity investment securities portfolio, with an amortized cost of \$0.5 million and gross unrealized loss of \$0.1 million. This TRUP represents a 10% interest in the TRUP of a well-capitalized non-public bank holding company in Michigan. The principal of \$0.5 million of this TRUP matures in 2033, with interest payments due quarterly. All scheduled interest payments on this TRUP have been made on a timely basis. We determined that the unrealized loss on this TRUP was attributable to lack of liquidity for issuances of this size. We concluded that the unrealized loss was temporary in nature at March 31, 2018.

At March 31, 2018, we expected to fully recover the entire amortized cost basis of each debt security in an unrealized loss position in our debt securities portfolio at that date. Furthermore, at March 31, 2018, we did not have the intent to sell any of our debt securities in an unrealized loss position and believed that it was more-likely-than-not that we would not have to sell any of our debt securities before a full recovery of amortized cost. However, there can be no assurance that OTTI losses will not be recognized on any debt security in the future.

Loans

Our loan portfolio is comprised of commercial, commercial real estate (which includes owner-occupied, non-owner occupied and vacant land) and real estate construction and land development loans, referred to as our commercial loan portfolio, and residential mortgage, consumer installment and home equity loans, referred to as our consumer loan portfolio. At March 31, 2018, our loan portfolio was \$14.22 billion and consisted of loans in the commercial loan portfolio totaling \$8.58 billion, or 60.3% of total loans, and loans in the consumer loan portfolio totaling \$5.64 billion, or 39.7% of total loans.

Chemical Bank is a full-service commercial bank and the acceptance and management of credit risk is an integral part of our business. We maintain loan policies and credit underwriting standards as part of the process of managing credit risk. These standards include making loans generally only within our market areas. Our lending markets generally consist of communities throughout Michigan and additional communities located within Ohio and Northern Indiana. Our lending philosophy is implemented through strong administrative and reporting controls. We maintain a centralized independent loan review function that monitors the approval process and ongoing asset quality of the loan portfolio.

Total loans were \$14.22 billion at March 31, 2018, an increase of \$63.5 million, or 0.4%, from total loans of \$14.16 billion at December 31, 2017, and an increase of \$0.95 billion, or 7.1%, from total loans of \$13.27 billion at March 31, 2017. We experienced organic loan growth of \$265.1 million during the first quarter of 2018 and \$2.05 billion during the twelve months ended March 31, 2018.

The following table includes the composition of our loan portfolio, by major loan category, as of March 31, 2018 and December 31, 2017.

(Dollars in thousands)	March 31, 2018	December 31, 2017
Commercial loan portfolio:		
Commercial	\$ 3,427,285	\$ 3,385,642
Commercial real estate:		
Owner-occupied	1,832,824	1,813,562
Non-owner occupied	2,680,801	2,606,761
Vacant land	74,751	80,347
Total commercial real estate	4,588,376	4,500,670
Real estate construction and land development	559,780	574,215
Subtotal - commercial loan portfolio	8,575,441	8,460,527
Consumer loan portfolio:		
Residential mortgage	3,264,620	3,252,487
Consumer installment	1,572,240	1,613,008
Home equity	806,446	829,245
Subtotal - consumer loan portfolio	5,643,306	5,694,740
Total loans	\$ 14,218,747	\$ 14,155,267

A discussion of our loan portfolio by category follows.

Commercial Loan Portfolio

Our commercial loan portfolio is comprised of commercial loans, commercial real estate loans (which includes owner-occupied, non-owner occupied and vacant land), real estate construction loans and land development loans. Our commercial loan portfolio is well diversified across business lines and has no concentrations in any one industry. The commercial loan portfolio of \$8.58 billion at March 31, 2018 included 138 loan relationships of \$5.0 million or greater. These 138 loan relationships totaled \$2.62 billion, which represented 30.5% of the commercial loan portfolio at March 31, 2018 and included 106 loan relationships that had outstanding balances of \$10.0 million or higher, totaling \$2.36 billion, or 27.5% of the commercial loan portfolio, at that date. We had 36 loan relationships that had outstanding balances of \$20.0 million or higher, totaling \$1.35 billion, or 15.7% of the commercial loan portfolio, at March 31, 2018. We had 29 loan relationships at March 31, 2018 with loan balances greater than \$5.0 million and less than \$10.0 million, totaling \$229.8 million, that had unfunded credit commitments totaling \$151.8 million that, if advanced, could result in a loan relationship of \$10.0 million or more.

The following table presents contractual maturities of our \$8.58 billion commercial loan portfolio at March 31, 2018. Commercial loans at fixed interest rates comprised 60.4% of our total commercial loan portfolio at March 31, 2018, compared to 56.8% at December 31, 2017. The percentage of these loans maturing within one year was 20.9% at March 31, 2018, while the percentage of these loans maturing beyond five years remained low at 24.1% at March 31, 2018. At March 31, 2018, loans in the commercial loan portfolio with maturities beyond one year totaled \$6.78 billion, with 66.4% of these loans at fixed interest rates.

(Dollars in thousands)	March 31, 2018			
	Due In			
	1 Year or Less	1 to 5 Years	Over 5 Years	Total
Loan maturities:				
Commercial	\$ 1,086,727	\$ 1,858,639	\$ 481,919	\$ 3,427,285
Commercial real estate:				
Owner-occupied	242,695	1,052,075	538,054	1,832,824
Non-owner occupied	335,056	1,497,653	848,092	2,680,801
Vacant land	18,292	38,648	17,811	74,751
Total commercial real estate	596,043	2,588,376	1,403,957	4,588,376
Real estate construction and land development	111,248	264,569	183,963	559,780
Total	\$ 1,794,018	\$ 4,711,584	\$ 2,069,839	\$ 8,575,441
Percent of total	20.9%	55.0%	24.1%	100.0%
Interest sensitivity of above loans:				
Fixed interest rates	\$ 677,062	\$ 3,361,873	\$ 1,144,352	\$ 5,183,287
Variable interest rates	1,116,956	1,349,711	925,487	3,392,154
Total	\$ 1,794,018	\$ 4,711,584	\$ 2,069,839	\$ 8,575,441

The following table presents the contractual maturities of our \$8.46 billion commercial loan portfolio at December 31, 2017.

(Dollars in thousands)	December 31, 2017			
	Due In			
	1 Year or Less	1 to 5 Years	Over 5 Years	Total
Loan maturities:				
Commercial	\$ 1,175,608	\$ 1,766,562	\$ 443,472	\$ 3,385,642
Commercial real estate:				
Owner-occupied	254,935	1,048,786	509,841	1,813,562
Non-owner occupied	304,692	1,493,661	808,408	2,606,761
Vacant land	21,211	41,334	17,802	80,347
Total commercial real estate	580,838	2,583,781	1,336,051	4,500,670
Real estate construction and land development	128,706	231,557	213,952	574,215
Total	\$ 1,885,152	\$ 4,581,900	\$ 1,993,475	\$ 8,460,527
Percent of total	22.3%	54.1%	23.6%	100.0%
Interest sensitivity of above loans:				
Fixed interest rates	\$ 717,547	\$ 3,074,906	\$ 1,013,538	\$ 4,805,991
Variable interest rates	1,167,605	1,506,994	979,937	3,654,536
Total	\$ 1,885,152	\$ 4,581,900	\$ 1,993,475	\$ 8,460,527

Commercial loans consist of loans and lines of credit to varying types of businesses, including municipalities, school districts and nonprofit organizations, for the purpose of supporting working capital and operational needs and term financing of equipment. Repayment of such loans is generally provided through operating cash flows of the borrower. Commercial loans are generally secured with inventory, accounts receivable, equipment, personal guarantees of the owner or other sources of repayment, although we may also obtain real estate as collateral.

Commercial loans were \$3.43 billion at March 31, 2018, an increase of \$41.6 million, or 1.2%, from commercial loans of \$3.39 billion at December 31, 2017. Commercial loans represented 24.1% of our loan portfolio at March 31, 2018, compared to 23.9% at December 31, 2017.

Commercial real estate loans include loans that are secured by real estate occupied by the borrower for ongoing operations (owner occupied), non-owner occupied real estate leased to one or more tenants (non-owner occupied) and vacant land that has been acquired for investment or future land development (vacant land). Commercial real estate loans were \$4.59 billion at March 31, 2018, an increase of \$87.7 million, or 1.9%, from commercial real estate loans of \$4.50 billion at December 31, 2017. Loans

secured by owner occupied properties, non-owner occupied properties and vacant land comprised 39.9%, 58.4% and 1.6%, respectively, of our commercial real estate loans outstanding at March 31, 2018. Commercial real estate loans represented 32.3% of our loan portfolio at March 31, 2018, compared to 31.8% at December 31, 2017.

Commercial and commercial real estate lending are generally considered to involve a higher degree of risk than residential mortgage, consumer installment and home equity lending as they typically involve larger loan balances concentrated in a single borrower. In addition, the payment experience on loans secured by income-producing properties and vacant land loans is typically dependent on the success of the operation of the related project and is typically affected by adverse conditions in the real estate market and in the economy. We generally attempt to mitigate the risks associated with commercial and commercial real estate lending by, among other things, lending primarily in our market areas, lending across industry lines, not developing a concentration in any one line of business and using prudent loan-to-value ratios in the underwriting process. It is management's belief that our commercial and commercial real estate loan portfolios are generally well-secured.

Real estate construction loans are primarily originated for construction of commercial properties and often convert to a commercial real estate loan at the completion of the construction period. Land development loans include loans made to developers for the purpose of infrastructure improvements to vacant land to create finished marketable residential and commercial lots/land. A majority of our land development loans consist of loans to develop residential real estate. Land development loans are generally originated as interest only with the intention that the loan principal balance will be repaid through the sale of finished properties by the developers within twelve months of the completion date. Real estate construction and land development loans were \$559.8 million at March 31, 2018, a decrease of \$14.4 million, or 2.5%, compared to \$574.2 million at December 31, 2017. Real estate construction and land development loans represented 3.9% of our loan portfolio at March 31, 2018, compared to 4.1% at December 31, 2017.

Real estate construction and land development lending involves a higher degree of risk than commercial real estate lending and residential mortgage lending because of the uncertainties of construction, including the possibility of costs exceeding the initial estimates, the need to obtain a tenant or purchaser of the property if it will not be owner-occupied or the need to sell developed properties. We generally attempt to mitigate the risks associated with real estate construction and land development lending by, among other things, lending primarily in our market areas, using prudent underwriting guidelines and closely monitoring the construction process. At March 31, 2018, \$0.3 million or 0.1%, of our \$559.8 million of real estate construction and land development loans were considered impaired, whereby we determined it was probable that the full amount of principal and interest would not be collected on these loans in accordance with their original contractual terms. At December 31, 2017, \$0.3 million, or 0.1%, of our \$574.2 million of real estate and construction and land development loans were considered impaired.

Consumer Loan Portfolio

Our consumer loan portfolio is comprised of residential mortgage loans, consumer installment loans and home equity loans and lines of credit.

Residential mortgage loans consist primarily of one- to four-family residential loans with fixed interest rates of 15 years or less, with amortization periods generally from 15 to 30 years. The loan-to-value ratio at the time of origination is generally 80% or less. Loans with more than an 80% loan-to-value ratio generally require private mortgage insurance.

Residential mortgage loans were \$3.26 billion at March 31, 2018, an increase of \$12.1 million, or 0.4%, from residential mortgage loans of \$3.25 billion at December 31, 2017. Residential mortgage loans historically involve the least amount of credit risk in our loan portfolio. Residential mortgage loans also include loans to consumers for the construction of single family residences that are secured by these properties. Residential mortgage construction loans to consumers were \$190.6 million at March 31, 2018, compared to \$272.3 million at December 31, 2017. Residential mortgage loans represented 23.0% of our loan portfolio at March 31, 2018, compared to 23.0% of our loan portfolio at December 31, 2017. We had residential mortgage loans with maturities beyond five years and that were at fixed interest rates totaling \$560.8 million at March 31, 2018, compared to \$495.8 million at December 31, 2017.

Our consumer installment loans consist of relatively small loan amounts to consumers to finance personal items (primarily automobiles, recreational vehicles and marine vehicles) and are comprised primarily of indirect loans generated from dealerships. Consumer installment loans were \$1.57 billion at March 31, 2018, a decrease of \$40.8 million, or 2.5%, from consumer installment loans of \$1.61 billion at December 31, 2017. At March 31, 2018, collateral securing consumer installment loans was comprised approximately as follows: automobiles - 60.2%; recreational vehicles - 19.1%; marine vehicles - 18.5%; other collateral - 1.7%; and unsecured - 0.5%. Consumer installment loans represented 11.1% of our loan portfolio at March 31, 2018, compared to 11.4% at December 31, 2017.

Our home equity loans, including home equity lines of credit, are comprised of loans to consumers who utilize equity in their personal residence, including junior lien mortgages, as collateral to secure the loan or line of credit. Home equity loans were \$806.4 million at March 31, 2018, a decrease of \$22.8 million, or 2.7%, from home equity loans of \$829.2 million at December 31, 2017. At March 31, 2018, approximately 65.7% of our home equity loans were first lien mortgages and 34.3% were junior lien mortgages. Home equity loans represented 5.7% of our loan portfolio at March 31, 2018, compared to 5.9% at December 31, 2017. Home equity lines of credit comprised \$389.1 million, or 48.2%, of our home equity loans at March 31, 2018, compared to \$396.2 million, or 47.8%, of home equity loans at December 31, 2017. The majority of our home equity lines of credit are comprised of loans with payments of interest only and original maturities of up to ten years. These home equity lines of credit include junior lien mortgages whereby the first lien mortgage is held by a nonaffiliated financial institution.

Consumer installment and home equity loans generally have shorter terms than residential mortgage loans, but generally involve more credit risk than residential mortgage lending because of the type and nature of the collateral. We experienced net credit losses on consumer installment and home equity loans totaling 26 basis points (annualized) of average consumer installment and home equity loans during the three months ended March 31, 2018, compared to 20 basis points of average consumer installment and home equity loans in all of 2017. Consumer installment and home equity loans are spread across many individual borrowers, which minimizes the risk per loan transaction. We originate consumer installment and home equity loans utilizing a computer-based credit scoring analysis to supplement the underwriting process. Consumer installment and home equity lending collections are dependent on the borrowers' continuing financial stability and are more likely to be affected by adverse personal situations. Collateral values on properties securing consumer installment and home equity loans are negatively impacted by many factors, including the physical condition of the collateral and property values, although losses on consumer installment and home equity loans are often more significantly impacted by the unemployment rate and other economic conditions. The unemployment rates in Michigan, Ohio and Indiana were 4.7%, 4.4% and 3.2%, respectively, at March 31, 2018, compared to 4.7%, 4.7% and 3.4%, respectively, at December 31, 2017. The national average unemployment rate was 4.1% at March 31, 2018.

Asset Quality

Summary of Impaired Assets and Past Due Loans

A loan is impaired when, based on current information and events, it is probable that we will be unable to collect all amounts due according to the contractual terms of the loan agreement. Impaired loans included nonperforming loans and all troubled debt restructurings ("TDRs").

Nonperforming assets consist of loans for which the accrual of interest has been discontinued, other real estate owned acquired through acquisitions or mergers, other real estate owned obtained through foreclosures and other repossessed assets. We do not consider accruing TDRs to be nonperforming assets. The level of nonaccrual is an important element in assessing asset quality. We transfer originated loans that are 90 days or more past due to nonaccrual status, unless we believe the loan is both well-secured and in the process of collection. For loans classified as nonaccrual, including those with modifications, we do not expect to receive all principal and interest payments, and therefore, any payments are recognized as principal reductions when received.

Acquired loans, accounted for under ASC 310-30, that are not performing in accordance with contractual terms are not reported as nonperforming because these loans are recorded in pools at their net realizable value based on the principal and interest we expect to collect on these loans.

Nonperforming assets were \$69.6 million at March 31, 2018, a decrease of \$2.4 million, or 3.3%, from \$71.9 million at December 31, 2017. The decrease in nonperforming assets during the three months ended March 31, 2018 was primarily attributable to decreases in home equity and residential mortgage loans, as well as a decline in other real estate and repossessed assets. Nonperforming assets represented 0.35% of total assets at March 31, 2018 and 0.37% at December 31, 2017, respectively. Our nonperforming assets are not concentrated in any one industry or any one geographical area within our footprint.

The following schedule provides a summary of impaired assets:

(Dollars in thousands)	March 31, 2018	December 31, 2017
Nonaccrual loans⁽¹⁾:		
Commercial	\$ 20,000	\$ 19,691
Commercial real estate:		
Owner-occupied	19,855	19,070
Non-owner occupied	5,489	5,270
Vacant land	4,829	5,205
Commercial real estate	30,173	29,545
Real estate construction and land development	77	77
Residential mortgage	7,621	8,635
Consumer installment	922	842
Home equity	3,039	4,305
Total nonaccrual loans	61,832	63,095
Other real estate and repossessed assets	7,719	8,807
Total nonperforming assets	\$ 69,551	\$ 71,902
Accruing troubled debt restructurings		
Commercial loan portfolio	\$ 35,216	\$ 34,484
Consumer loan portfolio	14,070	14,298
Total performing troubled debt restructurings	49,286	48,782
Total impaired assets	\$ 118,837	\$ 120,684
Accruing loans contractually past due 90 days or more as to interest or principal payments, excluding loans accounted for under ASC 310-30		
Commercial loan portfolio	\$ 322	\$ 13
Consumer loan portfolio	913	1,364
Total accruing loans contractually past due 90 days or more as to interest or principal payments	\$ 1,235	\$ 1,377
Nonperforming loans as a percent of total loans	0.43%	0.45%
Nonperforming assets as a percent of total assets	0.35%	0.37%
Impaired assets as a percent of total assets	0.60%	0.63%

⁽¹⁾ Includes nonaccrual troubled debt restructuring.

Nonaccrual loans that meet the definition of a TDR (nonaccrual TDR) totaled \$26.2 million at March 31, 2018, compared to \$29.1 million at December 31, 2017. These loans have been modified by providing the borrower a financial concession that is intended to improve our probability of collection of the amounts due.

The following schedule summarizes impaired loans to commercial borrowers and the related valuation allowance at March 31, 2018 and December 31, 2017 and partial loan charge-offs (confirmed losses) taken on these impaired loans:

(Dollars in thousands)	Amount	Valuation Allowance	Confirmed Losses	Cumulative Inherent Loss Percentage
March 31, 2018				
Impaired loans – originated commercial loan portfolio:				
With valuation allowance and no charge-offs	\$ 35,261	\$ 4,111	\$ —	12%
With valuation allowance and charge-offs	7,849	969	9,383	60%
With charge-offs and no valuation allowance	10,046	—	3,600	26%
Without valuation allowance or charge-offs	32,310	—	—	—%
Total impaired loans to commercial borrowers	<u>\$ 85,466</u>	<u>\$ 5,080</u>	<u>\$ 12,983</u>	<u>18%</u>
December 31, 2017				
Impaired loans – originated commercial loan portfolio:				
With valuation allowance and no charge-offs	\$ 48,622	\$ 4,618	\$ —	9%
With valuation allowance and charge-offs	8,591	919	9,335	57%
With charge-offs and no valuation allowance	4,695	—	2,568	35%
Without valuation allowance or charge-offs	21,889	—	—	—%
Total impaired loans to commercial borrowers	<u>\$ 83,797</u>	<u>\$ 5,537</u>	<u>\$ 11,903</u>	<u>18%</u>

After analyzing the various components of the customer relationships and evaluating the underlying collateral of impaired loans, we determined that impaired loans in the commercial loan portfolio totaling \$43.1 million at March 31, 2018 required a specific allocation of the allowance for loan losses (valuation allowance) of \$5.1 million, compared to \$57.2 million of impaired loans in the commercial loan portfolio at December 31, 2017 which required a valuation allowance of \$5.5 million.

Nonperforming Loans

The following schedule provides the composition of nonperforming loans, by major loan category, as of March 31, 2018 and December 31, 2017.

(Dollars in thousands)	March 31, 2018		December 31, 2017	
	Amount	Percent of Total	Amount	Percent of Total
Commercial loan portfolio:				
Commercial	\$ 20,000	32.4%	\$ 19,691	31.2%
Commercial real estate:				
Owner-occupied	19,855	32.1	19,070	30.2
Non-owner occupied	5,489	8.9	5,270	8.4
Vacant land	4,829	7.8	5,205	8.3
Total commercial real estate	<u>30,173</u>	<u>48.8</u>	<u>29,545</u>	<u>46.9</u>
Real estate construction and land development	77	0.1	77	0.1
Subtotal-commercial loan portfolio	<u>50,250</u>	<u>81.3</u>	<u>49,313</u>	<u>78.2</u>
Consumer loan portfolio:				
Residential mortgage	7,621	12.3	8,635	13.7
Consumer installment	922	1.5	842	1.3
Home equity	3,039	4.9	4,305	6.8
Subtotal-consumer loan portfolio	<u>11,582</u>	<u>18.7</u>	<u>13,782</u>	<u>21.8</u>
Total nonperforming loans	<u>\$ 61,832</u>	<u>100.0%</u>	<u>\$ 63,095</u>	<u>100.0%</u>

Total nonperforming loans were \$61.8 million at March 31, 2018, a decrease of \$1.3 million, or 2.0%, compared to \$63.1 million at December 31, 2017. Our nonperforming loans in the commercial loan portfolio were \$50.3 million at March 31, 2018,

a decrease of \$0.9 million, or 1.9%, from \$49.3 million at December 31, 2017. Nonperforming loans in the commercial loan portfolio comprised 81.3% of total nonperforming loans at March 31, 2018, compared to 78.2% at December 31, 2017. Our nonperforming loans in the consumer loan portfolio were \$11.6 million at March 31, 2018, a decrease of \$2.2 million, or 16.0%, from \$13.8 million at December 31, 2017.

The following schedule summarizes changes in nonaccrual loans (including nonaccrual TDRs) during the three months ended March 31, 2018 and 2017.

(Dollars in thousands)	Three Months Ended	
	March 31,	
	2018	2017
Balance at beginning of period	\$ 63,095	\$ 44,334
Additions during period	13,710	14,038
Principal balances charged off	(3,989)	(4,743)
Transfers to other real estate/repossessed assets	(1,252)	(1,720)
Returned to accrual status	(2,543)	(1,376)
Payments received	(7,189)	(2,692)
Balance at end of period	\$ 61,832	\$ 47,841

Nonperforming Loans — Commercial Loan Portfolio

The following schedule presents information related to stratification of nonperforming loans in the commercial loan portfolio by dollar amount at March 31, 2018 and December 31, 2017.

(Dollars in thousands)	March 31, 2018		December 31, 2017	
	Number of Borrowers	Amount	Number of Borrowers	Amount
\$5,000,000 or more	—	\$ —	2	\$ 10,426
\$2,500,000 – \$4,999,999	2	9,723	—	—
\$1,000,000 – \$2,499,999	6	8,590	7	10,063
\$500,000 – \$999,999	11	8,158	12	8,593
\$250,000 – \$499,999	32	11,335	27	9,473
Under \$250,000	178	12,444	150	10,758
Total	229	\$ 50,250	198	\$ 49,313

Nonperforming commercial loans within the commercial loan portfolio were \$20.0 million at March 31, 2018, a decrease of \$0.3 million, or 1.6%, compared to \$19.7 million at December 31, 2017. Nonperforming commercial loans comprised 0.6% of total commercial loans at March 31, 2018, compared to 0.6% at December 31, 2017.

Nonperforming commercial real estate loans within the commercial loan portfolio were \$30.2 million at March 31, 2018, a decrease of \$0.6 million, or 2.1%, compared to \$29.5 million at December 31, 2017. Nonperforming commercial real estate loans comprised 0.7% of total commercial real estate loans at both March 31, 2018 and December 31, 2017, respectively. Nonperforming commercial real estate loans secured by owner occupied real estate, non-owner occupied real estate and vacant land totaled \$19.9 million, \$5.5 million and \$4.8 million, respectively, at March 31, 2018. At March 31, 2018, our nonperforming commercial real estate loans were comprised of a diverse mix of commercial lines of business and were also geographically disbursed throughout our market areas. The largest concentrations of the \$30.2 million in nonperforming commercial real estate loans at March 31, 2018 were two customer relationships totaling \$9.7 million with one customer relationship totaling \$4.9 million that was fully collateralized by commercial property and one customer relationship totaling \$4.8 million that was primarily secured by vacant land.

Nonperforming real estate construction and land development loans were \$0.1 million at both March 31, 2018 and December 31, 2017. Nonperforming real estate construction and land development loans comprised less than 0.1% of total real estate construction and land development loans at both March 31, 2018 and December 31, 2017.

At March 31, 2018, we had nonperforming loans in the commercial loan portfolio of \$0.2 million that were secured by real estate and were in various stages of foreclosure, compared to \$1.2 million at December 31, 2017.

Nonperforming Loans — Consumer Loan Portfolio

Nonperforming residential mortgage loans were \$7.6 million at March 31, 2018, a decrease of \$1.0 million, or 11.7%, from \$8.6 million at December 31, 2017. Nonperforming residential mortgage loans comprised 0.2% and 0.3% of total residential mortgage loans at March 31, 2018 and December 31, 2017, respectively. At March 31, 2018, a total of \$0.6 million of nonperforming residential mortgage loans were in various stages of foreclosure, compared to \$0.5 million at December 31, 2017.

Nonperforming consumer installment loans were \$0.9 million at March 31, 2018, compared to \$0.8 million at December 31, 2017. Nonperforming consumer installment loans comprised 0.06% of total consumer installment loans at March 31, 2018, compared to 0.05% at December 31, 2017.

Nonperforming home equity loans were \$3.0 million at March 31, 2018, a decrease of \$1.3 million, or 29.4%, compared to \$4.3 million at December 31, 2017. Nonperforming home equity loans comprised 0.4% of total home equity loans at March 31, 2018, compared to 0.5% at December 31, 2017.

Troubled Debt Restructurings (TDRs)

We assess all loan modifications to determine whether a restructuring constitutes a TDR. A restructuring is considered a TDR when a borrower demonstrates financial difficulties and for which a concession has been granted. We determined that it was probable that certain customers who were past due on their loans, if provided a modification of their loans by reducing their monthly payments, would be able to bring their loan relationships to a performing status. We believe loan modifications will potentially result in a lower level of loan losses and loan collection costs than if we proceeded immediately through the foreclosure process with these borrowers.

Accruing TDRs continue to accrue interest at the loan's original interest rate as we expect to collect the remaining principal balance on the loan. Nonaccrual loans that meet the definition of a TDR do not accrue interest as we do not expect to collect the full amount of principal and interest owed from the borrower on these loans.

The following summarizes our TDRs (both accruing and nonaccrual) at March 31, 2018 and December 31, 2017:

(Dollars in thousands)	Accruing TDRs			Nonaccrual TDRs	Total
	Current	Past due 31-90 days	Subtotal		
March 31, 2018					
Commercial loan portfolio	\$ 34,936	\$ 280	\$ 35,216	\$ 21,914	\$ 57,130
Consumer loan portfolio	13,514	556	14,070	4,265	18,335
Total TDRs	\$ 48,450	\$ 836	\$ 49,286	\$ 26,179	\$ 75,465
December 31, 2017					
Commercial loan portfolio	\$ 30,706	\$ 3,778	\$ 34,484	\$ 24,358	\$ 58,842
Consumer loan portfolio	13,552	746	14,298	4,748	19,046
Total TDRs	\$ 44,258	\$ 4,524	\$ 48,782	\$ 29,106	\$ 77,888

A summary of changes in our accruing TDRs in the commercial loan portfolio for the three months ended March 31, 2018 and 2017 follows:

(Dollars in thousands)	Three Months Ended March 31,	
	2018	2017
Balance at beginning of period	\$ 34,484	\$ 45,388
Additions for modifications	2,702	608
Principal payments and pay-offs	(1,642)	(3,019)
Transfers from nonaccrual status	—	1,077
Transfers to nonaccrual status	(328)	(2,999)
Balance at end of period	\$ 35,216	\$ 41,055

Other Real Estate and Repossessed Assets

Other real estate and repossessed assets are components of nonperforming assets, included in "Interest receivable and other assets" on the Consolidated Statements of Financial Position. These include other real estate (ORE), comprised of residential and commercial real estate and land development properties acquired through foreclosure or by acceptance of a deed in lieu of foreclosure, and repossessed assets, comprised of other personal and commercial assets. ORE totaled \$7.2 million at March 31, 2018, a decrease of \$1.0 million, or 12.0%, from \$8.2 million at December 31, 2017. The decrease in ORE during the three months ended March 31, 2018 was primarily attributable to ORE sales. Repossessed assets totaled \$0.5 million at March 31, 2018, a decrease of \$0.1 million, from \$0.6 million at December 31, 2017.

The following schedule provides the composition of ORE at March 31, 2018 and December 31, 2017:

(Dollars in thousands)	March 31, 2018	December 31, 2017
Composition of ORE:		
Vacant land	\$ 1,433	\$ 2,064
Commercial real estate properties	3,595	3,363
Residential real estate properties	2,171	2,755
Total ORE	\$ 7,199	\$ 8,182

The following schedule summarizes ORE activity during the three months ended March 31, 2018 and 2017:

(Dollars in thousands)	Three Months Ended	
	March 31,	
	2018	2017
Balance at beginning of period	\$ 8,182	\$ 16,812
Additions	1,638	3,119
Transfers based on adoption of ASU 2014-09	(189)	—
Write-downs	(651)	(269)
Net payments received	(103)	(39)
Dispositions	(1,678)	(3,728)
Balance at end of period	\$ 7,199	\$ 15,895

Our ORE is carried at the lower of cost or fair value less estimated cost to sell. We had \$3.0 million in ORE at March 31, 2018 that had been held in excess of one year, of which \$0.8 million had been held in excess of three years. We had \$8.2 million of nonperforming loans that were in the process of foreclosure at March 31, 2018.

All of our ORE properties have been written down to fair value through a charge-off against the allowance for loan losses at the time the loan was transferred to ORE, through a subsequent write-down, recorded as an operating expense, to recognize a further market value decline of the property after the initial transfer date, or due to recording at fair value as a result of acquisition transactions. Accordingly, at March 31, 2018, the carrying value of ORE of \$7.2 million was reflective of \$5.2 million in charge-offs, write-downs and acquisition-related fair value adjustments.

During the three months ended March 31, 2018, we sold 26 ORE properties for proceeds of \$2.4 million. On an average basis, the net proceeds from these sales represented 144% of the carrying value of the property at the time of sale, with the proceeds representing 70% of the remaining contractual loan balance at the time these loans were classified as nonperforming.

Allowance for Loan Losses

The allowance for loan losses ("allowance") provides for probable losses in the originated and acquired loan portfolios that have been identified for probable losses believed to be inherent in the remainder of the loan portfolios.

The originated allowance is comprised of specific valuation allowances (assessed for originated loans that have known credit weaknesses and are considered impaired), pooled allowances, based on assigned risk ratings and historical loan loss experience for each loan type, and a qualitative allowance based on environmental factors that take into consideration risks inherent in the originated loan portfolio that differ from historical loan loss experience. Our methodology for measuring the adequacy of the originated allowance is comprised of several key elements, which include a review of the loan portfolio, both individually and by category, and consideration of changes in the mix and volume of the loan portfolio, actual delinquency and loan loss experience, review of collateral values, the size and financial condition of the borrowers, industry and geographical exposures within the portfolio, economic conditions and employment levels of our local markets and other factors affecting business sectors.

The allowance for each acquired loan portfolio was not carried over on the date of each respective acquisition. Instead, the acquired loans were recorded at their estimated fair values at each acquisition date, with the estimated fair values including a component for expected credit losses. Acquired loans are subsequently evaluated for further credit deterioration in loan pools, which consist of loans with similar credit risk characteristics. If an acquired loan pool experiences a decrease in expected cash flows, as compared to those expected at the acquisition date, an allowance is established and allocated to acquired loans. The acquired allowance is calculated with the objective of maintaining a reserve sufficient to absorb losses inherent in the loan portfolio. The allowance is evaluated utilizing the key assumptions and estimates, similar to the initial estimate of fair value. Management must use judgment to develop our estimates of cash flows for acquired loans, which are impacted by many factors, including changes in property values, default rates, loss severities and prepayment speeds. As a result of the significant amount of judgment involved in estimating future cash flows expected to be collected for acquired loans, the adequacy of the allowance could be significantly impacted by changes in expected cash flows resulting from changes in credit quality of acquired loans. There was no allowance for the acquired loan portfolio as of both March 31, 2018 and December 31, 2017.

We evaluate the originated and acquired allowances on a quarterly basis in an effort to ensure the level is adequate to absorb probable losses inherent in the loan portfolios. This evaluation process is inherently subjective as it requires estimates that may be susceptible to significant change and has the potential to affect net income materially. We believe that the allowances are currently maintained at an appropriate level, considering the inherent risk in the loan portfolios. Future significant adjustments to the allowances may be necessary due to changes in economic conditions, delinquencies or the level of loan losses incurred.

The following schedule summarizes information related to our allowance for loan losses:

(Dollars in thousands)	March 31, 2018	December 31, 2017
Allowance for loan losses:		
Originated loans	\$ 94,762	\$ 91,887
Acquired loans	—	—
Total	\$ 94,762	\$ 91,887
Nonperforming loans	\$ 61,832	\$ 63,095
Allowance for loan losses (originated loans) as a percent of:		
Total originated loans	0.95%	0.94%
Nonperforming loans	153%	146%
Nonperforming loans, less impaired originated loans for which the expected loss has been charged-off	183%	157%

A summary of the activity in the allowance for loan losses is included in the table below.

(Dollars in thousands)	Three Months Ended	
	March 31, 2018	March 31, 2017
Allowance for loan losses - originated loan portfolio		
Allowance for loan losses - beginning of period	\$ 91,887	\$ 78,268
Provision for loan losses	6,256	4,050
Loan charge-offs:		
Commercial	(1,493)	(2,637)
Commercial real estate:		
Owner-occupied	(147)	(15)
Non-owner occupied	(495)	(12)
Vacant land	(450)	(18)
Total commercial real estate	(1,092)	(45)
Real estate construction and land development	(9)	(9)
Residential mortgage	(159)	(643)
Consumer installment	(1,496)	(1,814)
Home equity	(575)	(426)
Total loan charge-offs	(4,824)	(5,574)
Recoveries of loans previously charged off:		
Commercial	241	638
Commercial real estate:		
Owner-occupied	488	740
Non-owner occupied	39	33
Vacant land	2	2
Total commercial real estate	529	775
Real estate construction and land development	35	—
Residential mortgage	106	76
Consumer installment	499	504
Home equity	33	37
Total loan recoveries	1,443	2,030
Net loan charge-offs	(3,381)	(3,544)
Total allowance for loan losses	\$ 94,762	\$ 78,774
Net loan charge-offs as a percent of average loans (annualized)	0.10%	0.11%

The following schedule summarizes information related to our allowance for loan losses for both originated and acquired loans:

(Dollars in thousands)	March 31, 2018		December 31, 2017	
	Allowance Amount	Percent of loans in each category to total loans	Allowance Amount	Percent of loans in each category to total loans
Originated loans:				
Commercial	\$ 27,053	17.5%	\$ 25,329	17.0%
Commercial real estate:				
Owner-occupied	16,130	8.3	15,664	8.4
Non-owner occupied	20,191	11.9	18,309	10.7
Vacant land	840	0.3	1,145	0.3
Total commercial real estate	37,161	20.5	35,118	19.4
Real estate construction and land development	3,530	3.4	5,686	3.5
Residential mortgage	14,613	14.3	13,375	13.9
Consumer Installment	8,744	10.4	8,577	10.7
Home equity	3,661	4.2	3,802	4.3
Subtotal — originated loans	94,762	70.3%	91,887	68.8%
Acquired loans	—	29.7	—	31.2
Total	\$ 94,762	100.0%	\$ 91,887	100.0%

Deposits

Total deposits were \$13.97 billion at March 31, 2018, an increase of \$0.3 billion, or 2.4%, from total deposits of \$13.64 billion at December 31, 2017. The increase in total deposits during the three months ended March 31, 2018 was primarily attributable to an increase in brokered deposits, noninterest-bearing checking accounts and money market accounts. Interest- and noninterest-bearing checking deposits, money market and savings accounts totaled \$10.28 billion at March 31, 2018, compared to \$10.11 billion at December 31, 2017. Time and brokered deposits totaled \$3.69 billion at March 31, 2018, compared to \$3.54 billion at December 31, 2017.

It is our strategy to develop customer relationships that will drive core deposit growth and stability. Our competitive position within many of our market areas has historically limited our ability to materially increase core deposits without adversely impacting the weighted average cost of the deposit portfolio. While competition for core deposits remained strong throughout our markets during the three months ended March 31, 2018, our efforts to expand deposit relationships with existing customers, our financial strength, and a general trend in customers holding more liquid assets have resulted in continued increases in customer deposits.

At March 31, 2018, time deposits, which consist of certificates of deposit, including CDARS, IRA deposits and other brokered funds, totaled \$3.36 billion, of which \$1.96 billion have stated maturities during the remainder of 2018. We expect the majority of these maturing time deposits to be renewed by customers. The following schedule summarizes the scheduled maturities of our time deposits as of March 31, 2018:

(Dollars in thousands)	Amount	Weighted Average Interest Rate
2018 maturities:		
Second quarter	\$ 757,639	1.0%
Third quarter	753,591	1.3
Fourth quarter	444,279	1.3
2018 remaining maturities	1,955,509	1.2
2019 maturities	958,963	1.4
2020 maturities	207,864	1.4
2021 maturities	140,227	1.5
2022 maturities	82,892	1.6
2023 maturities and beyond	14,658	1.6
Total time deposits	\$ 3,360,113	1.3%

The below table presents the maturity distribution of time deposits of \$250,000 or more at March 31, 2018. Time deposits of \$250,000 or more totaled \$2.02 billion and represented 14.5% of total deposits at March 31, 2018.

(Dollars in thousands)	March 31, 2018	
	Amount	Percent
Maturity:		
Within 3 months	\$ 68,043	3.4%
After 3 but within 6 months	609,729	30.2
After 6 but within 12 months	750,258	37.1
After 12 months	591,834	29.3
Total	\$ 2,019,864	100.0%

Borrowed Funds and Other Short-Term Liabilities

Borrowed funds consist of short-term and long-term borrowings. Other short-term liabilities consist of collateralized customer deposits. Short-term borrowings, which generally have an original term to maturity of 30 days or less, consist of short-term Federal Home Loan Bank ("FHLB") advances and federal funds purchased which are utilized by us to fund short-term liquidity needs. Long-term borrowings consist of long-term FHLB advances, a non-revolving line-of-credit, a revolving line of credit and subordinated debt obligations.

Other Short-term Liabilities

Other short-term liabilities consist of collateralized customer deposits, which represent funds deposited by customers that are collateralized by investment securities owned by Chemical Bank, as these deposits are not covered by Federal Deposit Insurance Corporation (FDIC) insurance. These funds have been a stable source of liquidity for Chemical Bank, much like our core deposit base, and are generally only provided to customers that have an established banking relationship with Chemical Bank. Our collateralized customer deposits do not qualify as sales for accounting purposes. Collateralized customer deposits were \$490.1 million at March 31, 2018, compared to \$415.2 million at December 31, 2017.

Short-term Borrowings

Short-term borrowings were \$2.05 billion at March 31, 2018 and \$2.00 billion at December 31, 2017 and were comprised solely of FHLB borrowings each period end. Short-term borrowings increased \$0.05 billion, during the three months ended March 31, 2018, primarily due to the addition of short-term FHLB advances utilized by us to fund short-term liquidity needs.

FHLB advances are borrowings from the Federal Home Loan Bank that are generally used to fund loans and are secured by both a blanket security agreement of residential mortgage first lien and other real estate loans with an aggregate book value equal to at least 140% of the advances and FHLB capital stock owned by Chemical Bank. The carrying value of loans eligible as collateral under the blanket security agreement was \$7.36 billion at March 31, 2018. The average daily balance, average interest rate during the period and maximum month-end balance of short-term FHLB advances during the three months ended March 31, 2018 were \$2.1 billion, 1.61% and \$2.1 billion, respectively. We rely on short-term FHLB advances to cover short-term liquidity needs.

Long-term Borrowings

Long-term borrowings were \$372.9 million at both March 31, 2018 and December 31, 2017.

A summary of the composition of our long-term borrowings follows:

(Dollars in thousands)	March 31, 2018	December 31, 2017
Long-term borrowings:		
Long-term FHLB advances	\$ 337,179	\$ 337,204
Non-revolving line-of-credit	19,968	19,963
Subordinated debt obligations	15,761	15,715
Total long-term borrowings	<u>\$ 372,908</u>	<u>\$ 372,882</u>

Credit-Related Commitments

We have credit-related commitments that may impact our liquidity. The following schedule summarizes our credit-related commitments and expected expiration dates by period as of March 31, 2018. Because many of these commitments historically have expired without being drawn upon, the total amount of these commitments does not necessarily represent future liquidity requirements of us.

(Dollars in thousands)	Less than 1 year	1-3 years	3-5 years	More than 5 years	Total
Unused commitments to extend credit:					
Loans to commercial borrowers	\$ 981,827	\$ 764,647	\$ 182,809	\$ 361,636	\$ 2,290,919
Loans to consumer borrowers	223,924	168,930	137,466	207,444	737,764
Total unused commitments to extend credit	1,205,751	933,577	320,275	569,080	3,028,683
Undisbursed loan commitments ⁽¹⁾	492,377	—	—	—	492,377
Standby letters of credit	131,387	11,236	21,985	25,127	189,735
Total credit-related commitments	<u>\$ 1,829,515</u>	<u>\$ 944,813</u>	<u>\$ 342,260</u>	<u>\$ 594,207</u>	<u>\$ 3,710,795</u>

⁽¹⁾ Excludes \$137.0 million of residential mortgage loan originations that were expected to be sold in the secondary market.

Because many of these commitments historically have expired without being drawn upon, the total amount of these commitments does not necessarily represent future liquidity requirements. Refer to Note 11 to our Consolidated Financial Statements for a further discussion of these obligations.

Capital

Capital supports current operations and provides the foundation for future growth and expansion. Our total shareholders' equity was \$2.70 billion at March 31, 2018, an increase of \$34.5 million, or 1.3%, from total shareholders' equity of \$2.67 billion at December 31, 2017. Our total shareholders' equity as a percentage of total assets was 13.7% at March 31, 2018, compared to 13.8% at December 31, 2017. Our tangible shareholders' equity, which is defined as total shareholders' equity less goodwill and other acquired intangible assets, totaled \$1.55 billion at March 31, 2018 and \$1.51 billion at December 31, 2017. Our tangible shareholders' equity to tangible assets ratio was 8.3% at both March 31, 2018 and December 31, 2017. Tangible shareholders' equity and the tangible shareholders' equity to tangible assets ratio are non-GAAP financial measures. Please refer to the section entitled "Non-GAAP Financial Measures."

Regulatory Capital

Under the regulatory "risk-based" capital guidelines in effect for both banks and bank holding companies, minimum capital levels are based upon perceived risk in the Corporation's and Chemical Bank's various asset categories. These guidelines assign risk weights to on- and off-balance sheet items in arriving at total risk-weighted assets. Regulatory capital is divided by the computed total of risk-weighted assets to arrive at the risk-based capital ratios. Risk-weighted assets of the Corporation and Chemical Bank totaled \$14.84 billion and \$14.80 billion at March 31, 2018, respectively, compared to \$14.74 billion and \$14.70 billion at December 31, 2017, respectively. The increase in risk-weighted assets during the three months ended March 31, 2018 was primarily attributable to an increase in our investment securities portfolio.

In July 2013, the Federal Reserve Board and FDIC approved final rules implementing the Basel Committee on Banking Supervision's ("BCBS") capital guidelines for U.S. banks (commonly referred to as "Basel III"). Beginning January 1, 2015, the Basel III capital rules include a new minimum common equity Tier 1 capital to risk-weighted assets ("CET Tier 1") ratio of 4.5%, in addition to raising the minimum ratio of Tier 1 capital to risk-weighted assets from 4.0% to 6.0% and requiring a minimum leverage ratio of 4.0%. The Basel III capital rules also establish a new capital conservation buffer of 2.5% of risk-weighted assets, which is phased-in over a four-year period beginning January 1, 2016.

The Corporation and Chemical Bank both continue to maintain strong capital positions, which exceeded the minimum capital adequacy levels prescribed by the Board of Governors of the Federal Reserve System (Federal Reserve) at March 31, 2018, as shown in the following schedule:

	March 31, 2018			
	Leverage Ratio	Risk-Based Capital Ratios		
		CET Tier 1	Tier 1	Total
Actual Capital Ratios:				
Chemical Financial Corporation	8.4%	10.4%	10.4%	11.2%
Chemical Bank	8.5	10.5	10.5	11.2
Minimum required for capital adequacy purposes	4.0	4.5	6.0	8.0
Minimum required for "well-capitalized" capital adequacy purposes	5.0	6.5	8.0	10.0

As of March 31, 2018, the Corporation and Chemical Bank's capital ratios exceeded the minimum levels required to be categorized as well-capitalized, as defined by applicable regulatory requirements. See Note 16 to the Consolidated Financial Statements for more information regarding the Corporation's and Chemical Bank's regulatory capital ratios.

Results of Operations

Overview

Our net income was \$70.2 million, or \$0.97 per diluted share, in the first quarter of 2018, compared to net income of \$9.4 million, or \$0.13 per diluted share, in the fourth quarter of 2017, and net income of \$47.6 million, or \$0.67 per diluted share, in the first quarter of 2017. Net income in the fourth quarter of 2017, excluding significant items, a non-GAAP financial measure, was \$62.7 million, or \$0.87 per diluted share, which excludes the \$46.7 million charge to income tax expense resulting from the revaluation of our net deferred tax assets completed following the signing of the Tax Cuts and Jobs Act in December 2017, \$2.6 million in merger and restructuring expenses and \$7.6 million of losses on sales of investment securities as part of our treasury and tax management objectives. Net income in the first quarter of 2017, excluding significant items, a non-GAAP financial measure which was \$50.3 million, or \$0.70 per diluted share, which excludes merger expenses of \$4.2 million. We had no significant items in the first quarter of 2018. The increase in net income in the first quarter of 2018, excluding significant items, compared to the fourth quarter of 2017, was primarily attributable to an increase in net interest income and noninterest income, partially offset by an increase in operating expenses, while the increase in net income in the first quarter of 2018, excluding significant items, compared to the first quarter of 2017, was primarily attributable to an increase in net interest income primarily due to organic loan growth and an increase in investment securities.

Return on average assets was 1.44% in the first quarter of 2018, compared to 0.20% in the fourth quarter of 2017 and 1.09% in the first quarter of 2017. Return on average equity was 10.5% in the first quarter of 2018, compared to 1.4% in the fourth quarter of 2017 and 7.4% in the first quarter of 2017. Return on average assets, excluding significant items, a non-GAAP financial measure, net of tax was 1.44% in the first quarter of 2018, compared to 1.31% in the fourth quarter of 2017 and 1.15% in the first quarter of 2017. Return on average shareholders' equity, excluding significant items, a non-GAAP financial measure, net of tax was 10.5% in the first quarter of 2018, compared to 9.4% in the fourth quarter of 2017 and 7.8% in the first quarter of 2017. Our return on average tangible shareholders' equity was 18.6% in the first quarter of 2018, compared to 2.5% in the fourth quarter of 2017 and 13.3% in the first quarter of 2017. Our return on average tangible equity, excluding significant items, a non-GAAP financial measure, was 16.5% in the fourth quarter of 2017 and 14.1% in the first quarter of 2017.

Please refer to the section entitled "Non-GAAP Financial Measures" included within this Management's Discussion and Analysis of Financial Condition and Results of Operations for a reconciliation of non-GAAP financial measures to the most directly comparable GAAP financial measures.

Net Interest Income

Net interest income is the difference between interest income on earning assets, such as loans, investment and non-marketable equity securities and interest-bearing deposits with the Federal Reserve Bank (FRB) and other banks, and interest expense on liabilities, such as deposits and borrowings. Net interest income is our largest source of net revenue (net interest income plus noninterest income), representing 78.9% of net revenue for the first quarter of 2018, compared to 81.9% for the fourth quarter of 2017 and 77.4% for the first quarter of 2017. Net interest income, on a fully taxable equivalent (FTE) basis, is the difference between interest income and interest expense adjusted for the tax benefit received on tax-exempt commercial loans and investment securities. Net interest margin (FTE) is calculated by dividing net interest income (FTE) by average interest-earning assets, annualized as applicable. Net interest spread is the difference between the average yield on interest-earning assets and the average cost of interest-bearing liabilities. Because noninterest-bearing sources of funds, or free funds (principally demand deposits and shareholders' equity), also support earning assets, the net interest margin exceeds the net interest spread.

Average Balances, Fully Tax Equivalent (FTE) Interest and Effective Yields and Rates

The following tables present the average daily balances of our major categories of assets and liabilities, interest income and expense on a fully tax equivalent (FTE) basis, average interest rates earned and paid on the assets and liabilities, net interest income (FTE), net interest spread and net interest margin for the three months ended March 31, 2018, December 31, 2017 and March 31, 2017. The presentation of net interest income on an FTE basis is not in accordance with GAAP but is customary in the banking industry. This non-GAAP measure ensures comparability of net interest income arising from both taxable and tax-exempt loans and investment securities. Please refer to the section entitled "Non-GAAP Financial Measures."

(Dollars in thousands)	Three Months Ended								
	March 31, 2018			December 31, 2017			March 31, 2017		
	Average Balance	Interest (FTE)	Effective Yield/Rate ⁽¹⁾	Average Balance	Interest (FTE)	Effective Yield/Rate ⁽¹⁾	Average Balance	Interest (FTE)	Effective Yield/Rate ⁽¹⁾
Assets									
Interest-earning Assets:									
Loans ⁽²⁾	\$ 14,224,926	\$ 157,568	4.48%	\$ 13,954,366	\$ 151,413	4.31%	\$ 13,155,846	\$ 133,293	4.11%
Taxable investment securities	1,781,995	12,419	2.79	1,715,494	10,289	2.40	1,005,489	4,756	1.89
Tax-exempt investment securities	1,010,092	7,033	2.79	981,299	7,830	3.19	861,508	6,495	3.02
Other interest-earning assets	180,084	1,901	4.28	180,098	2,018	4.45	103,334	621	2.44
Interest-bearing deposits with the FRB and other banks and federal funds sold	262,910	1,240	1.91	307,028	1,192	1.54	269,288	799	1.20
Total interest-earning assets	17,460,007	180,161	4.17	17,138,285	172,742	4.01	15,395,465	145,964	3.83
Less: Allowance for loan losses	(92,648)			(86,521)			(78,616)		
Other assets:									
Cash and cash due from banks	226,660			239,307			229,203		
Premises and equipment	126,742			138,880			146,044		
Interest receivable and other assets	1,737,116			1,777,479			1,781,923		
Total assets	\$ 19,457,877			\$ 19,207,430			\$ 17,474,019		
Liabilities and shareholders' equity									
Interest-bearing Liabilities:									
Interest-bearing demand deposits	\$ 2,767,267	\$ 1,225	0.18%	\$ 2,709,033	\$ 1,242	0.18%	\$ 2,898,061	\$ 1,018	0.14%
Savings deposits	4,047,004	4,937	0.49	4,023,075	4,296	0.42	3,842,594	1,721	0.18
Time deposits	3,262,568	9,755	1.21	3,136,655	8,765	1.11	2,953,069	6,177	0.85
Collateralized customer deposits	409,077	524	0.52	408,962	461	0.45	333,666	150	0.18
Short-term borrowings	2,055,556	8,166	1.61	1,957,609	6,952	1.41	892,222	1,508	0.69
Long-term borrowings	372,886	1,464	1.59	383,739	1,541	1.67	539,032	2,225	1.67
Total interest-bearing liabilities	12,914,358	26,071	0.82	12,619,073	23,257	0.73	11,458,644	12,799	0.45
Noninterest-bearing deposits	3,688,581	—	—	3,734,650	—	—	3,305,201	—	—
Total deposits and borrowed funds	16,602,939	26,071	0.64	16,353,723	23,257	0.56	14,763,845	12,799	0.35
Interest payable and other liabilities	186,613			177,678			125,673		
Shareholders' equity	2,668,325			2,676,029			2,584,501		
Total liabilities and shareholders' equity	\$ 19,457,877			\$ 19,207,430			\$ 17,474,019		
Net Interest Spread (Average yield earned minus average rate paid)			3.35%			3.28%			3.38%
Net Interest Income (FTE)	\$ 154,090			\$ 149,485			\$ 133,165		
Net Interest Margin (Net interest income (FTE) divided by total average interest-earning assets)			3.56%			3.47%			3.49%
Reconciliation to Reported Net Interest Income									
Net interest income, fully taxable equivalent (non-GAAP)	\$ 154,090			\$ 149,485			\$ 133,165		
Adjustments for taxable equivalent interest ⁽¹⁾ :									
Loans	(750)			(855)			(808)		
Tax-exempt investment securities	(1,477)			(2,725)			(2,260)		
Total taxable equivalent interest adjustments	(2,227)			(3,580)			(3,068)		
Net interest income (GAAP)	\$ 151,863			\$ 145,905			\$ 130,097		
Net interest margin (GAAP)	3.51%			3.39%			3.41%		

(1) Fully taxable equivalent (FTE) basis using a federal income tax rate of 21% for periods in 2018 and 35% for periods in 2017. The presentation of net interest income on a FTE basis is not in accordance with GAAP, but is customary in the banking industry. Please refer to the section entitled "Non-GAAP Financial Measures."

(2) Nonaccrual loans and loans held-for-sale are included in average balances reported and are included in the calculation of yields. Also, tax equivalent interest includes net loan fees.

Net interest income (FTE) of \$154.1 million in the first quarter of 2018 was \$4.6 million, or 3.1%, higher than net interest income (FTE) of \$149.5 million in the fourth quarter of 2017. The increase in net interest income (FTE) in the first quarter of 2018, compared to the fourth quarter of 2017, was primarily driven by increases in yields earned and average balances on loans and investment securities, partially offset by two less days in the quarter. The net interest margin (FTE) increased to 3.56% in the first quarter of 2018, compared to 3.47% in the fourth quarter of 2017, primarily due to increases in yields earned and average balances in our loan and investment securities portfolios, partially offset by an increase in our cost of funds and the reduced benefit of the fully taxable equivalent adjustment as a result of the reduction in the federal corporate tax rate to 21%. The average yield on interest-earning assets increased 16 basis points to 4.17% in the first quarter of 2018, from 4.01% in the fourth quarter of 2017. The increase in the size of our investment securities portfolio was primarily due to our reinvestment of the proceeds from our fourth quarter of 2017 sales of certain securities in a loss position as part of our treasury and tax management objectives and additional investment in our investment securities portfolio. Interest accretion from purchase accounting discounts on acquired loans contributed 29 basis points to our net interest margin (FTE) in the first quarter of 2018, compared to 22 basis points in the fourth quarter of 2017. The yield on total loans in the first quarter of 2018 of 4.48%, increased 17 basis points compared to the fourth quarter of 2017, primarily due to higher yields on originated loans and the benefit from interest rate adjustments on variable rate loans during the first quarter of 2018. The average cost of interest-bearing liabilities increased nine basis points to 0.82% in the first quarter of 2018, compared to 0.73% in the fourth quarter of 2017, primarily due to the increase in average short-term borrowings and time deposits.

Net interest income (FTE) of \$154.1 million in the first quarter of 2018 was \$20.9 million or 15.7%, higher than net interest income (FTE) of \$133.2 million in the first quarter of 2017, with the increase primarily attributable to an increase in loan yields and originated loan growth and an increase in the investment securities portfolio. The net interest margin (FTE) was 3.56% in the first quarter of 2018, compared to 3.49% in the first quarter of 2017. The average yield on interest-earning assets increased 34 basis points to 4.17% in the first quarter of 2018 from 3.83% in the first quarter of 2017. The average yield on loans increased 37 basis points to 4.48% in the first quarter of 2018 from 4.11% in the first quarter of 2017. Interest accretion from purchase accounting discounts on acquired loans contributed 29 basis points to our net interest margin (FTE) in the first quarter of 2018, compared to 12 basis points in the first quarter of 2017. The average cost of interest-bearing liabilities increased 37 basis points to 0.82% in the first quarter of 2018 from 0.45% in the first quarter of 2017, primarily due to increases in short-term borrowings and deposit balances outstanding and funding costs resulting from a rise in market rates.

Changes in our net interest income are influenced by a variety of factors, including changes in the level and mix of interest-earning assets and interest-bearing liabilities, current and prior years' interest rate changes, the level and direction of interest rates, the difference between short-term and long-term interest rates (the steepness of the yield curve) and the general strength of the economies in our markets. Risk management plays an important role in our level of net interest income. The ineffective management of credit risk, and more significantly interest rate risk, can adversely impact our net interest income. Management monitors our Consolidated Statements of Financial Position to seek to reduce the potential adverse impact on net interest income caused by significant changes in interest rates. Our policies in this regard are further discussed under the subheading "Market Risk."

The Federal Reserve influences the general market rates of interest, including the deposit and loan rates offered by many financial institutions. The prime interest rate, which is the rate offered on loans to borrowers with strong credit, increased to 4.75% from the previous rate of 4.50% in December 2017. The prime interest rate has historically been 300 basis points higher than the federal funds rate. The majority of our variable interest rate loans in the commercial loan portfolio are tied to the prime rate.

We are primarily funded by core deposits, which is a lower-cost funding base than wholesale funding and historically has had a positive impact on our net interest income and net interest margin.

Volume and Rate Variance Analysis

The below table presents the effect of volume and rate changes on interest income and expense. Changes in volume are changes in the average balance multiplied by the previous year's average rate. Changes in rate are changes in the average rate multiplied by the average balance from the previous year. The net changes attributable to the combined impact of both rate and volume have been allocated proportionately to the changes due to volume and the changes due to rate.

(Dollars in thousands)	Three Months Ended March 31, 2018					
	Compared to Three Months Ended December 31, 2017			Compared to Three Months Ended March 31, 2017		
	Increase (Decrease) Due to Changes in			Increase (Decrease) Due to Changes in		
	Average Volume ⁽¹⁾	Average Yield/Rate ⁽¹⁾	Combined Increase/ (Decrease)	Average Volume ⁽¹⁾	Average Yield/Rate ⁽¹⁾	Combined Increase/ (Decrease)
Changes in Interest Income on Interest-Earning Assets:						
Loans	\$ 2,198	\$ 3,957	\$ 6,155	\$ 12,234	\$ 12,041	\$ 24,275
Taxable investment securities/other assets	415	1,598	2,013	5,431	3,512	8,943
Tax-exempt investment securities	221	(1,018)	(797)	1,060	(522)	538
Interest-bearing deposits with the FRB and other banks	(174)	222	48	(84)	525	441
Total change in interest income on interest-earning assets	2,660	4,759	7,419	18,641	15,556	34,197
Changes in Interest Expense on Interest-Bearing Liabilities:						
Interest-bearing demand deposits	35	(52)	(17)	(40)	247	207
Savings deposits	65	576	641	241	2,975	3,216
Time deposits	619	371	990	702	2,876	3,578
Collateralized customer deposits	—	63	63	39	335	374
Short-term borrowings	317	897	1,214	3,292	3,366	6,658
Long-term borrowings	(83)	6	(77)	(956)	195	(761)
Total change in interest expense on interest-bearing liabilities	953	1,861	2,814	3,278	9,994	13,272
Total Change in Net Interest Income (FTE)⁽²⁾	\$ 1,707	\$ 2,898	\$ 4,605	\$ 15,363	\$ 5,562	\$ 20,925

(1) The change in interest income and interest expense due to both volume and rate has been allocated to the volume and rate changes in proportion to the relationship of the absolute dollar amounts of the change in each.

(2) Fully taxable equivalent basis using a federal income tax rate of 21% for the period in 2018 and 35% for periods in 2017. The presentation of net interest income on a FTE basis is not in accordance with GAAP, but is customary in the banking industry.

Provision for Loan Losses

The provision for loan losses ("provision") is an increase to the allowance, as determined by management, to provide for probable losses inherent in the originated loan portfolio and for impairment in pools of acquired loans that results from us experiencing a decrease, if any, in expected cash flows of acquired loans during each reporting period. The provision was \$6.3 million in the first quarter of 2018, compared to \$7.5 million in the fourth quarter of 2017 and \$4.1 million in the first quarter of 2017. The decrease in the provision in the first quarter of 2018, compared to the fourth quarter of 2017, was primarily the result of a reduction in originated loan growth. Originated loan growth was \$265.1 million in the first quarter of 2018, which was partially offset by run-off in the acquired loan portfolio of \$201.6 million during the same period, compared to originated loan growth of \$591.3 million in the fourth quarter of 2017, partially offset by run-off in the acquired loan portfolio of \$269.4 million during the same period and originated loan growth of \$501.4 million in the first quarter of 2017, partially offset by run-off in the acquired loan portfolio of \$218.8 million during the same period. The first quarter of 2017 provision was impacted by overall credit quality and collateral position improvements compared to December 31, 2016. All acquired loans were recorded at their estimated fair value at each respective acquisition date without a carryover of the related allowance and, at each of March 31, 2018, December 31, 2017 and March 31, 2017, no allowance was determined to be needed for acquired loans as a decrease in expected cash flows was not evident.

We experienced net loan charge-offs of \$3.4 million in the first quarter of 2018, compared to \$1.4 million in the fourth quarter of 2017 and \$3.5 million in the first quarter of 2017. Net loan charge-offs as a percentage of average loans (annualized) were 0.10% in the first quarter of 2018, compared to 0.04% in the fourth quarter of 2017 and 0.11% in the first quarter of 2017. The increase in charge-offs in the first quarter of 2018 was primarily due to charge-offs taken on loans individually evaluated for

impairment with previously established specific reserves. Net loan charge-offs in the commercial loan portfolios totaled \$1.8 million in the first quarter of 2018, compared to net loan recoveries of \$0.2 million in the fourth quarter of 2017 and net loan charge-offs of \$1.3 million in the first quarter of 2017. Net loan charge-offs in the consumer loan portfolios totaled \$1.6 million in both the first quarter of 2018 and in the fourth quarter of 2017, compared to \$2.3 million in the first quarter of 2017.

Noninterest Income

The following table presents the major components of noninterest income:

(Dollars in thousands)	Three Months Ended		
	March 31, 2018	December 31, 2017	March 31, 2017
Noninterest income			
Service charges and fees on deposit accounts	\$ 8,463	\$ 9,073	\$ 8,004
Wealth management revenue ⁽¹⁾	6,311	6,539	5,827
Electronic banking fees	4,057	5,578	6,817
Net gain on sale of loans and other mortgage banking revenue	8,783	7,938	9,679
Change in fair value in loan servicing rights ⁽²⁾	3,752	(13)	(519)
Other fees for customer services	1,695	1,675	1,567
Insurance commissions	2	269	507
Gain (loss) on sale of investment securities	—	(7,556)	90
Bank-owned life insurance	891	1,377	1,211
Rental income	199	184	159
Other	6,401	7,255	4,668
Total noninterest income	\$ 40,554	\$ 32,319	\$ 38,010
Significant items ⁽³⁾	—	(7,556)	—
Noninterest income excluding significant items⁽³⁾⁽⁴⁾	\$ 40,554	\$ 39,875	\$ 38,010
Noninterest income as a percentage of:			
Net revenue (net interest income plus noninterest income)	21.1%	18.1%	22.6%
Average total assets	0.2%	0.2%	0.2%
Net revenue, excluding significant items ⁽³⁾⁽⁴⁾	21.1%	21.5%	22.6%
Average total assets, excluding significant items ⁽³⁾⁽⁴⁾	0.2%	0.2%	0.2%

(1) Included within the line item "Other charges and fees for customer services" in the Consolidated Statements of Income.

(2) Included within the line item "Net gain on sale of loans and other mortgage banking revenue" in our Consolidated Statements of Income.

(3) Significant items are defined as the fourth quarter of 2017 losses on sales of investment securities taken as part of our treasury and tax management objectives following the signing of the Tax Cuts and Jobs Act.

(4) Noninterest income, excluding significant items, as a percentage of net revenue and average total assets, are non-GAAP financial measures. See the section entitled "Non-GAAP Financial Measures."

Noninterest income was \$40.6 million in the first quarter of 2018, \$32.3 million in the fourth quarter of 2017 and \$38.0 million in the first quarter of 2017. Noninterest income in the fourth quarter of 2017 included \$7.6 million in losses incurred on sales of investment securities as part of our treasury and tax management objectives following the signing of the Tax Cuts and Jobs Act, deemed a significant item. Excluding significant items, first quarter of 2018 noninterest income increased \$0.7 million, or 1.7%, compared to the fourth quarter of 2017, and increased \$2.5 million, or 6.7%, compared to the first quarter of 2017. The increase from both the fourth quarter of 2017 and the first quarter of 2017 was primarily due to an increase in the change in fair value in loan servicing rights, partially offset by a decrease in electronic banking fees.

Service charges and fees on deposit accounts, which include overdraft/non-sufficient funds fees, checking account fees and other deposit account charges, were \$8.5 million in the first quarter of 2018, \$9.1 million in the fourth quarter of 2017, and \$8.0 million in the first quarter of 2017. Service charges and fees on deposit accounts decreased \$0.6 million, or 6.7%, in the first quarter of 2018, compared to the fourth quarter of 2017, and \$0.5 million, or 5.7%, from the first quarter of 2017. Overdraft/non-sufficient funds fees included in service charges and fees on deposit accounts were \$5.9 million in the first quarter of 2018, compared to \$6.4 million in the fourth quarter of 2017 and \$5.7 million in the first quarter of 2017.

Wealth management revenue is comprised of investment fees that are generally based on the market value of assets within a trust account, custodial account fees and fees from the sale of investment products. Volatility in the equity and bond markets impacts the market value of trust assets and related investment fees. Wealth management revenue was \$6.3 million in the first quarter of 2018, compared to \$6.5 million in the fourth quarter of 2017 and \$5.8 million in the first quarter of 2017. Wealth management revenue decreased \$0.2 million, or 3.5%, in the first quarter of 2018, compared to the fourth quarter of 2017 and increased \$0.5 million, or 8.3%, compared to the first quarter of 2017.

At March 31, 2018, the estimated fair value of trust assets under administration was \$5.13 billion (including discretionary assets of \$2.67 billion and nondiscretionary assets of \$2.46 billion), compared to \$5.13 billion at December 31, 2017 (including discretionary assets of \$2.67 billion and nondiscretionary assets of \$2.46 billion). Wealth management revenue includes fees from the sale of investment products offered through the Chemical Financial Advisors program. Fees from this program totaled \$1.4 million in the first quarter of 2018, compared to \$1.3 million in both the fourth quarter of 2017 and in the first quarter of 2017.

Electronic banking fees, which represent income earned from ATM transactions, debit card activity and internet banking fees were \$4.1 million in the first quarter of 2018, \$5.6 million in the fourth quarter of 2017, and \$6.8 million in the first quarter of 2017. Electronic banking fees decreased \$1.5 million, or 27.3%, compared to the fourth quarter of 2017, and decreased \$2.8 million, or 40.5%, compared to the first quarter of 2017. The decrease in electronic banking fees in the first quarter of 2018, compared to both the fourth quarter of 2017 and the first quarter of 2017, was primarily due to a reduction in interchange fees resulting from limitations set by the Durbin amendment, which became effective for us on July 1, 2017.

Net gain on sale of loans and other mortgage banking revenue ("MBR") includes revenue from originating, selling and servicing residential mortgage loans for the secondary market and other loan sales. MBR was \$12.5 million in the first quarter of 2018, \$7.9 million in the fourth quarter of 2017, and \$9.2 million in the first quarter of 2017. MBR increased \$4.6 million, or 58.17%, compared to the fourth quarter of 2017, and increased \$3.4 million, compared to the first quarter of 2017. The increase in MBR in the first quarter of 2018, compared to both the fourth quarter of 2017 and the first quarter of 2017 was primarily due to the change in fair value in loan servicing rights recognized, which was a benefit of \$3.8 million in the first quarter of 2018, compared to a detriment of \$13 thousand in the fourth quarter of 2017 and a detriment in the first quarter of 2017 of \$0.5 million. At March 31, 2018, we were servicing \$7.02 billion of residential mortgage loans that had been originated in our market areas and subsequently sold in the secondary market, compared to \$7.11 billion at December 31, 2017.

We sell residential mortgage loans in the secondary market on both a servicing retained and servicing released basis. These sales include us entering into residential mortgage loan sale agreements with buyers in the normal course of business. The agreements contain provisions that include various representations and warranties regarding the origination, characteristics and underwriting of the mortgage loans. The recourse of the buyer may result in either indemnification of any loss incurred by the buyer or a requirement for us to repurchase a loan that the buyer believes does not comply with the representations included in the loan sale agreement. Repurchase and loss indemnification demands received by us are reviewed by a senior officer on a loan-by-loan basis to validate the claim made by the buyer. We maintain a reserve for probable losses expected to be incurred from loans previously sold in the secondary market. This contingent liability is based on trends in repurchase and indemnification demands, actual loss experience, information requests, known and inherent risks in the sale of loans in the secondary market and current economic conditions. We record losses resulting from the repurchase of loans previously sold in the secondary market, as well as adjustments to estimates of future probable losses, as part of our MBR in the period incurred. Our reserve for probable losses was \$5.1 million at March 31, 2018, compared to \$5.3 million at December 31, 2017.

All other categories of noninterest income, including other fees for customer services, insurance commissions and other noninterest income, excluding the items previously discussed, totaled \$9.2 million in the first quarter of 2018, \$10.8 million in the fourth quarter of 2017 and \$8.1 million in the first quarter of 2017. Other fees for customer services include revenue from safe deposit boxes, credit card referral fees, wire transfer fees, letter of credit fees and other fees for services.

Operating Expenses

The following table presents the major categories of operating expenses:

(Dollars in thousands)	Three Months Ended		
	March 31, 2018	December 31, 2017	March 31, 2017
Operating expense			
Salaries and wages	\$ 46,192	\$ 41,866	\$ 48,526
Employee benefits	9,913	5,497	11,368
Occupancy	8,011	7,546	7,392
Equipment and software	7,659	8,000	8,517
Outside processing and service fees	11,332	9,081	7,511
FDIC insurance premiums	5,629	4,556	1,406
Professional fees	2,525	3,483	1,968
Intangible asset amortization	1,439	1,525	1,513
Advertising and marketing	1,375	804	2,025
Postage and express mail	1,188	1,051	1,551
Training, travel and other employee expenses	1,373	1,626	1,624
Telephone	848	771	988
Supplies	579	579	687
Donations	286	52	518
Credit-related expenses	1,306	803	1,200
Merger expenses	—	1,511	4,167
Restructuring expenses	—	1,056	—
Impairment of income tax credit	1,634	6,157	—
Other	2,069	4,058	3,235
Total operating expenses	\$ 103,358	\$ 100,022	\$ 104,196
Significant and other non-core items ⁽¹⁾	\$ 1,634	\$ 8,724	\$ 4,167
Operating expenses, core (non-GAAP) ⁽¹⁾⁽²⁾	\$ 101,724	\$ 91,298	\$ 100,029
Full-time equivalent staff (at period end)	3,026	3,010	3,273
Average assets	\$19,457,877	\$19,207,430	\$17,474,019
Efficiency ratio - GAAP	53.7%	56.1%	62.0%
Efficiency ratio - adjusted non-GAAP ⁽²⁾	52.5%	47.4%	57.4%
Total operating expenses as a percentage of total average assets	0.5%	0.5%	0.6%
Total operating expenses as a percentage of total average assets - adjusted non-GAAP ⁽²⁾	0.5%	0.5%	0.6%

(1) Significant items are defined as merger expenses and restructuring expense. The non-core item includes the impairment of income tax credits.

(2) Please refer to the section entitled "Non-GAAP Financial Measures" for a reconciliation to the most directly comparable GAAP financial measure.

Total operating expenses were \$103.4 million in the first quarter of 2018, \$100.0 million in the fourth quarter of 2017 and \$104.2 million in the first quarter of 2017. Operating expenses included a \$1.6 million impairment related to a federal historic income tax credit in the first quarter of 2018, \$2.6 million of merger and restructuring expenses and \$6.2 million of impairment related to federal historic income tax credits in the fourth quarter of 2017, and \$4.2 million of merger expenses in the first quarter of 2017, each noted as "significant items" for the applicable periods. Operating expenses, core, a non-GAAP financial measure that excludes these significant items for each applicable period, was \$101.7 million in the first quarter of 2018, an increase of \$10.4 million, or 11.4%, compared to core operating expenses of \$91.3 million in the fourth quarter of 2017, and an increase of \$1.7 million, or 1.7%, compared to core operating expenses of \$100.0 million in the first quarter of 2017. The increase in core operating expense in the first quarter of 2018, compared to the fourth quarter of 2017, was primarily due to an \$8.7 million increase in salaries, wages and employee benefits and a \$2.3 million increase in outside processing and service fees.

Salaries and wages were \$46.2 million in the first quarter of 2018, \$41.9 million in the fourth quarter of 2017, and \$48.5 million in the first quarter of 2017. Salaries and wages expense increased \$4.3 million, or 10.3%, in the first quarter of 2018, compared to the fourth quarter of 2017, primarily due to annual merit increases, the hiring of additional lenders, key management and operations staff and a decrease in the deferral of loan origination costs due to lower loan production. Salaries and wages

expense decreased \$2.3 million, or 4.8%, in the first quarter of 2018, compared to the first quarter of 2017, mostly due to the restructuring efforts that took place during the second half of 2017.

Employee benefits expense was \$9.9 million in the first quarter of 2018, \$5.5 million in the fourth quarter of 2017, and \$11.4 million in the first quarter of 2017. Employee benefits expense increased \$4.4 million, or 80.3%, in the first quarter of 2018, compared to the fourth quarter of 2017, primarily due to an increase in payroll taxes as a result in the increased salary and wage expense, the beginning of a new tax year. Employee benefits expense decreased \$1.5 million, or 12.8%, in the first quarter of 2018, compared to the first quarter of 2017, due primarily to lower payroll taxes on lower salary and wage expense.

Compensation expenses, which include salaries and wages and employee benefits, as a percentage of total operating expenses were 54.3% in the first quarter of 2018, 47.4% in the fourth quarter of 2017, and 57.5% in the first quarter of 2017.

Occupancy expense was \$8.0 million in the first quarter of 2018, \$7.5 million in the fourth quarter of 2017 and \$7.4 million in the first quarter of 2017. Occupancy expense increased \$0.5 million, or 6.2%, in the first quarter of 2018, compared to the fourth quarter of 2017, and increased \$0.6 million, or 8.4%, in the first quarter of 2018, compared to the first quarter of 2017. Occupancy expense included depreciation expense on buildings of \$1.6 million in first quarter of 2018, compared to \$1.7 million in both the fourth quarter of 2017 and in the first quarter of 2017.

Equipment and software expense was \$7.7 million in the first quarter of 2018, \$8.0 million in the fourth quarter of 2017, and \$8.5 million in the first quarter of 2017. Equipment and software expense decreased \$0.3 million, or 4.3%, in the first quarter of 2018, compared to the fourth quarter of 2017, and decreased \$0.9 million, or 10.1%, compared to the first quarter of 2017.

Outside processing and service fees are largely comprised of amounts paid to third-party vendors related to the outsourcing of certain day-to-day functions that are integral to our ability to provide services to our customers, including such things as our debit card, electronic banking and wealth management platforms. Outside processing and service fees were \$11.3 million in the first quarter of 2018, \$9.1 million in the fourth quarter of 2017 and \$7.5 million in the first quarter of 2017. Outside processing and service fees increased \$2.3 million, or 24.8%, in the first quarter of 2018, compared to the fourth quarter of 2017, and increased \$3.8 million, or 50.9%, compared to the first quarter of 2017. The increase in the first quarter of 2018, compared to both the fourth quarter of 2017 and the first quarter of 2017 was primarily due to costs incurred related to preparing for the conversion of our core operating system. Costs specifically attributed to our efforts to implement upgrades to our core operating systems were \$2.7 million in the first quarter of 2018.

FDIC insurance premiums were \$5.6 million in the first quarter of 2018, \$4.6 million in the fourth quarter of 2017 and \$1.4 million in the first quarter of 2017. FDIC insurance premiums increased \$1.1 million, or 23.6%, in the first quarter of 2018, compared to the fourth quarter of 2017, and increased \$4.2 million, compared to the first quarter of 2017. The increase in the first quarter of 2018, compared to the first quarter of 2017, was primarily due to an increase in our assessment base, which consists of average consolidated total assets less average Tier 1 capital, largely resulting from an increase in loans and investment securities.

Professional fees were \$2.5 million in the first quarter of 2018, \$3.5 million in the fourth quarter of 2017 and \$2.0 million in the first quarter of 2017. Professional fees decreased \$1.0 million, or 27.5%, in the first quarter of 2018, compared to the fourth quarter of 2017, and increased \$0.6 million compared to the first quarter of 2017.

Credit-related expenses are comprised of other real estate ("ORE") net costs and loan collection costs. ORE net costs are comprised of costs to carry ORE, such as property taxes, insurance and maintenance costs, fair value write-downs after a property is transferred to ORE and net gains/losses from the disposition of ORE. Loan collection costs include legal fees, appraisal fees and other costs recognized in the collection of loans with deteriorated credit quality and in the process of foreclosure. Credit-related expenses were \$1.3 million in the first quarter of 2018, compared to \$0.8 million in the fourth quarter of 2017 and \$1.2 million in the first quarter of 2017. We recognize net gains from the sales of ORE properties of \$0.8 million in the first quarter of 2018, \$2.7 million in the fourth quarter of 2017, and \$1.0 million in the first quarter of 2017.

All other categories of operating expenses not discussed above totaled \$10.8 million in the first quarter of 2018, \$19.2 million in the fourth quarter of 2017, and \$16.3 million in the first quarter of 2017. All other categories of operating expenses decreased \$8.4 million, or 43.8%, in the first quarter of 2018, compared to the fourth quarter of 2017, primarily due to the decrease in merger and restructuring expenses and the decrease in the impairment of federal historic income tax credits. The decrease in all other categories of operating expenses in the first quarter of 2018, compared to the first quarter of 2017, was primarily due to the decrease in merger expenses.

Our efficiency ratio, which measures total operating expenses divided by the sum of net interest income plus noninterest income, was 53.7% in the first quarter of 2018, 56.1% in the fourth quarter of 2017, and 62.0% in the first quarter of 2017. Our adjusted efficiency ratio, a non-GAAP financial measure that excludes merger expenses, restructuring expenses, the change in fair value in loan servicing rights, amortization of intangibles, impairment of income tax credits, net interest income FTE adjustment,

and loss/gain from sale of investment securities, as applicable, was 52.5% in the first quarter of 2018, 47.4% in the fourth quarter of 2017, and 57.4% in the first quarter of 2017.

Please refer to the section entitled "Non-GAAP Financial Measures" included within this Management's Discussion and Analysis of Financial Condition and Results of Operations for a reconciliation of core operating expenses and the adjusted efficiency ratio to the most directly comparable GAAP financial measures.

Income Tax Expense

We record our federal income tax expense using our estimate of the effective income tax rate expected for the full year and apply that rate on a year-to-date basis. The fluctuations in our effective federal income tax rate reflect changes each period in the proportion of interest income exempt from federal taxation and other nondeductible expenses relative to pretax income and tax credits.

A reconciliation of expected income tax expense at the federal statutory income tax rate and the amounts recorded in our Consolidated Financial Statements were as follows:

(Dollars in thousands)	Three Months Ended					
	March 31, 2018		December 31, 2017		March 31, 2017	
	Amount	Rate	Amount	Rate	Amount	Rate
Tax at statutory rate	\$ 17,389	21.0 %	\$ 24,738	35.0 %	\$ 20,951	35.0 %
Changes resulting from:						
Tax-exempt interest income	(1,515)	(1.8)	(2,379)	(3.4)	(1,757)	(2.9)
State taxes, net of federal benefit	144	0.2	235	0.3	212	0.4
Change in valuation allowance	(49)	(0.1)	(1,149)	(1.6)	11	—
Bank-owned life insurance adjustments	(187)	(0.2)	(673)	(1.0)	(344)	(0.6)
Director plan change in control	—	—	—	—	—	—
Income tax credits, net	(2,393)	(2.9)	(5,711)	(8.0)	(695)	(1.2)
Nondeductible transaction expenses	—	—	(172)	(0.2)	—	—
Tax detriment (benefits) in excess of compensation costs on share-based payments ⁽¹⁾	(1,366)	(1.6)	(15)	—	(6,134)	(10.2)
Impact of the Tax Cuts and Jobs Act ⁽²⁾	—	—	46,660	66.0	—	—
Other, net	610	0.7	(300)	(0.5)	13	—
Income tax expense	\$ 12,633	15.3 %	\$ 61,234	86.6 %	\$ 12,257	20.5 %

⁽¹⁾ Represents excess tax benefits resulting from the exercise or settlement of share-based payment transactions.

Our effective federal income tax rate was 15.3% in the first quarter of 2018, 86.6% in the fourth quarter of 2017, and 20.5% in the first quarter of 2017. The fluctuations in our effective federal income tax rate reflect changes each year in the proportion of interest income exempt from federal taxation, nondeductible transaction costs and other nondeductible expenses relative to pretax income and tax credits. Our tax rate for the first quarter of 2018 benefited from the enactment of the Tax Cuts and Jobs Act which reduced the federal corporate tax rate to 21% effective January 1, 2018 and a \$1.6 million benefit from a federal housing tax credit placed into service during the quarter. Our tax rate for the fourth quarter of 2017 was impacted by the \$46.7 million charge to income tax expense as a result of a revaluation of our net deferred tax assets and the \$6.2 million benefit from federal historic tax credits placed into service during the quarter. Our tax rate for the first quarter of 2017 benefited primarily from stock option exercises that occurred during the quarter. We had no uncertain tax positions during the three months ended March 31, 2018, December 31, 2017 and March 31, 2017.

During the fourth quarter of 2017, "H.R.1", referred to as the "Tax Cuts and Jobs Act" was signed into law. The Tax Cuts and Jobs Act, among other items, reduced the corporate federal income tax rate from a maximum rate of 35% to a flat tax rate of 21% effective January 1, 2018. Accounting guidance required the effects of changes in tax law be recognized and recorded in the interim period in which the law is enacted. As such, our deferred tax assets and liabilities which, prior to the enactment, were valued at a federal rate of 35% were revalued to the newly enacted federal tax rate of 21%. The impact of the Tax Cuts and Jobs Act resulted in a \$46.7 million increase to income tax expense in the fourth quarter of 2017 related to continuing operations as a result of the revaluation of the net deferred tax asset of \$46.0 million and an acceleration of amortization expense on the low income housing tax credit investment portfolio of \$0.7 million at December 31, 2017.

Liquidity

Liquidity risk is the potential that we will be unable to meet our obligations as they come due because of an inability to liquidate assets or obtain adequate funding (referred to as "funding liquidity risk") or that we cannot easily unwind or offset specific exposures without significantly lowering market prices because of inadequate market depth or market disruptions (referred to as "market liquidity risk").

Funding liquidity risk is managed to ensure stable, reliable and cost-effective sources of funds are available to satisfy deposit withdrawals and lending and investment opportunities. Our ability as a financial institution to meet our current financial obligations is a function of our balance sheet structure, our ability to liquidate assets and our access to alternative sources of funds. We manage our funding needs by maintaining a level of liquid funds through our asset/liability management process. Our largest sources of liquidity on a consolidated basis are the deposit base that comes from consumer, business and municipal customers within our local markets, principal payments on loans, maturing investment securities, cash held at the FRB and unpledged investment securities available-for-sale. Total deposits increased \$325.0 million during the three months ended March 31, 2018, compared to December 31, 2017, primarily due to an increase in brokered deposits, noninterest-bearing checking accounts and money market accounts. Our loan-to-deposit plus collateralized customer deposits ratio was 98.3% at March 31, 2018 and 100.7% at December 31, 2017. We had \$294.4 million of cash deposits held at the FRB at March 31, 2018, compared to \$143.7 million at December 31, 2017. At March 31, 2018, we had unpledged investment securities available-for-sale with an amortized cost of \$931.5 million and available unused wholesale sources of liquidity, including FHLB advances and borrowings from the discount window of the FRB.

Chemical Bank is a member of the FHLB and as such has access to short-term and long-term advances from the FHLB that are generally secured by residential mortgage first lien loans. We had short-term and long-term FHLB advances outstanding of \$2.4 billion at March 31, 2018. Our additional borrowing availability from the FHLB, subject to certain requirements, was \$143.6 million at March 31, 2018. We can also borrow from the FRB's discount window to meet short-term liquidity requirements. These borrowings are required to be secured by investment securities and/or certain loan types, with each category of assets carrying various borrowing capacity percentages. At March 31, 2018, we maintain an unused borrowing capacity of \$101.3 million with the FRB's discount window based upon pledged collateral as of that date. We also had the ability to borrow an additional \$425.0 million of federal funds from multiple third-party financial institutions at March 31, 2018. In addition, we have a credit agreement of \$145.0 million consisting of a \$125.0 million term line-of-credit and a \$20.0 million revolving line-of-credit. The \$20.0 million revolving line-of-credit and \$105.0 million of the term line of credit was available for use at March 31, 2018. It is management's opinion that our borrowing capacity could be expanded, if deemed necessary, as it has additional borrowing capacity available at the FHLB and we have a significant amount of additional assets that could be used as collateral at the FRB's discount window.

We manage our liquidity position to provide the cash necessary to pay dividends to shareholders, invest in new subsidiaries, enter new banking markets, pursue investment opportunities and satisfy other operating requirements. Our primary source of liquidity is dividends from Chemical Bank.

Federal and state banking laws place certain restrictions on the amount of dividends that a bank may pay to its parent company. During the three months ended March 31, 2018, Chemical Bank paid \$20.0 million in dividends to us, and we paid cash dividends to shareholders of \$20.1 million. The earnings of Chemical Bank are the principal source of funds to pay cash dividends to our shareholders. Chemical Bank had net income of \$71.2 million during the three months ended March 31, 2018, compared to net income of \$162.7 million during the year ended December 31, 2017. Over the long term, cash dividends to shareholders are dependent upon earnings, capital requirements, regulatory restraints and other factors affecting Chemical Bank.

The following liquidity ratios compare certain assets and liabilities to total deposits or total assets.

	March 31, 2018	December 31, 2017
Investment securities available-for-sale to total deposits	16.4%	14.4%
Loans to total deposits ⁽¹⁾	98.3	100.7
Interest-earning assets to total assets	89.1	88.6
Interest-bearing deposits to total deposits	72.8	72.7

⁽¹⁾ For liquidity purposes, collateralized customer deposits are treated similarly to deposits and are included in this calculation.

Market Risk

Market risk is the risk to a financial institution's condition resulting from adverse movements in market rates or prices, including, but not limited to, interest rates, foreign exchange rates, commodity prices, or equity prices. Interest rate risk, a form of market risk, is the current and prospective risk to earnings or capital arising from movement in interest rates. Interest rate risk is due to the difference in the repricing and maturity dates between financial assets and funding sources, as well as changes in the relationship between benchmark rate indices used to reprice various assets and liabilities, product options available to customers, competitive pressures and other variables. Our net interest income is largely dependent upon the effective management of interest rate risk. Our goal is to avoid a significant decrease in net interest income, and thus an adverse impact on the profitability of us, in periods of changing interest rates. Sensitivity of earnings to interest rate changes arises when yields on assets change differently from the interest costs on liabilities. Interest rate sensitivity is determined by the amount of interest-earning assets and interest-bearing liabilities repricing within a specific time period and the magnitude by which interest rates change on the various types of interest-earning assets and interest-bearing liabilities. The management of interest rate sensitivity includes monitoring the maturities and repricing opportunities of interest-earning assets and interest-bearing liabilities. Our interest rate risk is managed through policies and risk limits approved by the boards of directors of the Corporation and Chemical Bank and an Asset and Liability Committee ("ALCO"). The ALCO, which is comprised of executive and senior management from various areas of the Corporation and Chemical Bank, including finance, lending, investments and deposit gathering, meets regularly to execute asset and liability management strategies. The ALCO establishes guidelines and monitors the sensitivity of earnings to changes in interest rates. The goal of the ALCO process is to manage the impact on net interest income and the net present value of future cash flows of probable changes in interest rates within authorized risk limits.

The primary technique utilized to measure our interest rate risk is simulation analysis. Simulation analysis forecasts the effects on the balance sheet structure and net interest income under a variety of scenarios that incorporate changes in interest rates, the shape of the U.S. Treasury yield curve, interest rate relationships and the mix of assets and liabilities and loan prepayments. These forecasts are compared against net interest income projected in a stable interest rate environment. While many assets and liabilities reprice either at maturity or in accordance with their contractual terms, several balance sheet components demonstrate characteristics that require an evaluation to more accurately reflect their repricing behavior. Key assumptions in the simulation analysis include prepayments on loans, probable calls of investment securities, changes in market conditions, loan volumes and loan pricing, deposit sensitivity and customer preferences. These assumptions are inherently uncertain as they are subject to fluctuation and revision in a dynamic environment. As a result, the simulation analysis cannot precisely forecast the impact of rising and falling interest rates on net interest income. Actual results will differ from simulated results due to many other factors, including changes in balance sheet components, interest rate changes, changes in market conditions and management strategies.

Our interest rate sensitivity is estimated by first forecasting the next twelve months of net interest income under an assumed environment of constant market interest rates. Next, we compare the results of various simulation analyses to the constant interest rate forecast (base case). At March 31, 2018 and December 31, 2017, we projected the change in net interest income during the next twelve months assuming short-term market interest rates were to uniformly and gradually increase or decrease by up to 200 basis points in a parallel fashion over the entire yield curve during the same time period. Additionally, we projected the change in net interest income of an immediate 400 basis point increase in market interest rates at March 31, 2018 and December 31, 2017. We did not project a 400 basis point decrease in interest rates as the likelihood of a decrease of this size was considered unlikely given prevailing interest rate levels. These projections were based on our assets and liabilities remaining static over the next twelve months, while factoring in probable calls and prepayments of certain investment securities and residential mortgage and consumer loans. The ALCO regularly monitors our forecasted net interest income sensitivity to ensure that it remains within established limits.

A summary of our interest rate sensitivity at March 31, 2018 and December 31, 2017 follows:

	Gradual Change					Immediate Change
March 31, 2018						
Twelve month interest rate change projection (in basis points)	-200	-100	0	+100	+200	+400
Percent change in net interest income vs. constant rates	(2.6)%	(0.5)%	—%	(1.0)%	(1.9)%	(4.5)%
December 31, 2017						
Twelve month interest rate change projection (in basis points)	-200	-100	0	+100	+200	+400
Percent change in net interest income vs. constant rates	(3.6)%	(1.2)%	—%	0.9%	(2.1)%	(4.2)%

At March 31, 2018, our model simulations projected that 100, 200 and 400 basis point increases in interest rates would result in negative variances in net interest income of 1.0%, 1.9% and 4.5%, respectively, relative to the base case over the next twelve-month period. At March 31, 2018, our model simulations also projected that decreases in interest rates of 100 and 200 basis points would result in negative variances in net interest income of 0.5% and 2.6%, respectively, relative to the base case over

the next twelve-month period. The likelihood of a decrease in interest rates beyond 200 basis points at March 31, 2018 was considered to be unlikely given prevailing interest rate levels.

Our model simulations at March 31, 2018 for a 200 basis point increase in interest rates resulted in a negative variance in net interest income, relative to the base case, primarily due to our deployment of excess cash and maturing variable-rate investment securities into fixed-rate loans. While the model simulations projected a negative variance for a 200 basis point increase, our net interest income is still projected to be higher if interest rates were to rise 200 basis points due to the higher yield being earned on the funds deployed into loans compared to maintaining these funds at the FRB earning 25-50 basis points or investing in lower yielding variable-rate investment securities. The model simulations at March 31, 2018 for an immediate 400 basis point increase in interest rates also resulted in a negative variance in net interest income, relative to the base case, due to the loan portfolio being primarily comprised of fixed-rate loans, while a majority of our customer deposit accounts are interest-rate sensitive.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

Information concerning quantitative and qualitative disclosures about market risk is contained in the discussion regarding interest rate risk and sensitivity under the captions "Liquidity" and "Market Risk" herein and in our Annual Report on Form 10-K for the year ended December 31, 2017, which are here incorporated by reference.

Since December 31, 2017, we do not believe that there has been a material change in the nature or categories of our primary market risk exposure, or the particular markets that present the primary risk of loss to us. As of the date of this report, we do not know of or expect there to be any material change in the general nature of our primary market risk exposure in the near term. The methods by which we manage our primary market risk exposure, as described in our Annual Report on Form 10-K for the year ended December 31, 2017, have not changed materially during the current year. As of the date of this report, we do not expect to make material changes in those methods in the near term. We may change those methods in the future to adapt to changes in circumstances or to implement new techniques.

Our market risk exposure is mainly comprised of vulnerability to interest rate risk. Prevailing interest rates and interest rate relationships are largely determined by market factors that are beyond our control.

Certain information provided in response to this item consists of forward-looking statements. Reference is made to the section captioned "Forward-Looking Statements" in this report for a discussion of the limitations on our responsibility for such statements. In this discussion, "near term" means a period of one year following the date of the most recent Consolidated Statements of Financial Position contained in this report.

Item 4. Controls and Procedures

An evaluation was performed under the supervision and with the participation of the Corporation's management, including the Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of the Corporation's disclosure controls and procedures as of the end of the period covered by this report. Based on and as of the time of that evaluation, the Corporation's management, including the Chief Executive Officer and Chief Financial Officer, concluded that the Corporation's disclosure controls and procedures were effective to ensure that information required to be disclosed by the Corporation in the reports it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC's rules and forms. There was no change in the Corporation's internal control over financial reporting that occurred during the three months ended March 31, 2018 that has materially affected, or that is reasonably likely to materially affect, the Corporation's internal control over financial reporting.

Part II. Other Information

Item 1. Legal Proceedings

On February 22, 2016, two putative class action and derivative complaints were filed in the Circuit Court for Oakland County, Michigan by individuals purporting to be a shareholder of Talmer Bancorp, Inc. ("Talmer"). The actions are styled *Regina Gertel Lee v. Chemical Financial Corporation, et. al.*, Case No. 2016-151642-CB and *City of Livonia Employees' Retirement System v. Chemical Financial Corporation et. al.*, Case No. 2016-151641-CB. These complaints purport to be brought derivatively on behalf of Talmer against the individual defendants, and individually and on behalf of all others similarly situated against Talmer and the Corporation (collectively, the "Defendants"). The complaints allege, among other things, that the directors of Talmer breached their fiduciary duties to Talmer's shareholders in connection with the merger by approving a transaction pursuant to an allegedly inadequate process that undervalues Talmer and includes preclusive deal protection provisions, and that the Corporation allegedly aided and abetted the Talmer directors in breaching their duties to Talmer's shareholders. The complaints also allege that the individual defendants have been unjustly enriched. Both complaints seek various remedies on behalf of the putative class (consisting of all shareholders of Talmer who are not related to or affiliated with any defendant). They request, among other things, that the Court enjoin the merger from being consummated in accordance with its agreed-upon terms, direct the Talmer directors to exercise their fiduciary duties, rescind the merger agreement to the extent that it is already implemented, award the plaintiff all costs and disbursements in each respective action (including reasonable attorneys' and experts' fees), and grant such further relief as the court deems just and proper. The *City of Livonia* plaintiff amended its complaint on April 21, 2016 to add additional factual allegations, including but not limited to allegations that Keefe Bruyette & Woods, Inc. ("KBW") served as a financial advisor for the proposed merger despite an alleged conflict of interest, that Talmer's board acted under actual or potential conflicts of interest, and that the defendants omitted and/or misrepresented material information about the proposed merger in the Form S-4 Registration Statement relating to the proposed merger. These two cases were consolidated as *In re Talmer Bancorp Shareholder Litigation*, case number 2016-151641-CB, per an order entered on May 12, 2016. On October 31, 2016, the plaintiffs in this consolidated action again amended their complaint, adding additional factual allegations, adding KBW as a defendant, and asserting that KBW acted in concert with the Corporation to aid and abet breaches of fiduciary duty by Talmer's directors. The Defendants all filed motions for summary disposition seeking dismissal of all claims with prejudice. The Court issued an opinion and order on those motions on May 4, 2017 and granted dismissal to the Corporation, but denied the motions filed by KBW and the individual defendants. KBW and the individual defendants filed an application seeking leave to appeal the Court's ruling to the Michigan Court of Appeals. That application was denied by the Michigan Court of Appeals on August 16, 2017. On June 8, 2017, the Defendants filed a notice with the Court that the plaintiffs had failed to timely certify a class as required by the Michigan Court Rules. Upon the filing of that notice, the *City of Livonia* case became an individual action brought by the two named plaintiffs, and cannot proceed as a class action. On October 19, 2017, the Defendants filed motions for summary disposition under MCR 2.116(C) (10) in the *City of Livonia* case, again seeking the dismissal of the case. A hearing on those motions was held on April 11, 2018. A ruling from the court is awaited. KBW and the individual defendants all believe that the claims asserted against each of them in the above-described consolidated action are without merit and intend to vigorously defend against these consolidated lawsuits.

On June 16, 2016, the same putative class plaintiff that filed the *City of Livonia* state court action discussed in the preceding paragraph filed a complaint in the United States District Court for the Eastern District of Michigan, styled *City of Livonia Employees' Retirement System v. Chemical Financial Corporation, et. al.*, Docket No. 1:16-cv-12229. The plaintiff purports to bring this action "individually and on behalf of all others similarly situated," and requests certification as a class action. The Complaint alleges violations of Section 14(a) and 20(a) of the Securities Exchange Act of 1934 and alleges, among other things, that the Defendants issued materially incomplete and misleading disclosures in the Form S-4 Registration Statement relating to the proposed merger. The Complaint contains requests for relief that include, among other things, that the Court enjoin the proposed transaction unless and until additional information is provided to Talmer's shareholders, declare that the Defendants violated the securities laws in connection with the proposed merger, award compensatory damages, interest, attorneys' and experts' fees, and that the Court grant such other relief as it deems just and proper. Talmer, the Corporation, and the individual defendants all believe that the claims asserted against each of them in this lawsuit are without merit and intend to vigorously defend against this lawsuit. On October 18, 2016, the Federal Court entered a stipulated order staying this action until the Oakland County Circuit Court issues rulings on motions for summary disposition *In re Talmer Bancorp Shareholder Litigation*, case number 2016-151641-CB. Following the Oakland County Circuit Court's denial of the Motions by KBW and the individual defendants and their ensuing application for leave to appeal that ruling, the Federal Court issued an order extending the stay of this action. On November 13, 2017, the Federal Court issued an Order Directing Plaintiff To Show Cause Why The Stay Should Not Be Lifted. On January 8, 2018, the plaintiff filed a reply to the show cause order, and asked that the stay be continued. The Defendants oppose continuation of the stay, and filed a reply to that effect on January 22, 2018. Further action by the Court is awaited.

In response to the failure of the *City of Livonia* case to qualify as a class action, on July 31, 2017, the same attorneys who filed the *City of Livonia* action filed a new lawsuit in the Oakland County, Michigan Circuit Court, based on the Talmer transaction. That case is styled *Kevin Nicholl v Gary Torgow et al*, Case No. 2017-160058-CB. The *Nicholl* case makes substantially the same

claims as were brought in the *City of Livonia* case, and seeks certification of a shareholder class. The *Nicholl* case has been assigned to Judge Wendy Potts, the same judge presiding over the *City of Livonia* case. On November 22, 2017, the plaintiff filed a First Amended Complaint purporting to add the City of Livonia Employees' Retirement System and Regina Gertel Lee as additional named plaintiffs in the case. The Defendants moved to strike the class allegations in the *Nicholl* case based on the failure of the plaintiffs to timely file a motion to certify a class. On April 2, 2018, the Court entered an opinion and order confirming that the class allegations in the *Nicholl* case are stricken, and the *Nicholl* case will proceed as an individual action only. On April 23, 2018, the plaintiffs filed a claim of appeal from the Court's April 2, 2018 opinion and order.

As in the *City of Livonia* case, the Defendants previously filed motions for summary disposition in the *Nicholl* case, seeking dismissal of the *Nicholl* case. Argument on these motions was heard on April 11, 2018, together with arguments on the summary disposition motions of the Defendants in the *City of Livonia* case. A ruling from the Court is awaited.

On January 3, 2018, the plaintiffs in the *City of Livonia* case filed a Motion For Voluntary Dismissal Without Prejudice. Defendants filed an opposition to that motion. The Court has not yet ruled on that motion, pending ruling on the Defendant's summary disposition motions in the *City of Livonia* and *Nicholl* cases.

In addition, we are subject to certain legal actions arising in the ordinary course of business. In the opinion of management, after consultation with legal counsel, the ultimate disposition of these matters is not expected to have a material adverse effect on our Consolidated Financial Condition or Results of Operations.

Item 1A. Risk Factors

Information concerning risk factors is contained in this report under the heading "Forward-Looking Statements" and in Item 1A, "Risk Factors," in the Corporation's Annual Report on Form 10-K for the year ended December 31, 2017.

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

The following schedule summarizes our total monthly share repurchase activity for the three months ended March 31, 2018:

Period Beginning on First Day of Month Ended	Issuer Purchases of Equity Securities			
	Total Number of Shares Purchased ⁽¹⁾	Average Price Paid Per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Maximum Number of Shares that May Be Purchased Under Plans or Programs
January 31, 2018	76,328	\$ 58.18	—	500,000
February 28, 2018	26,115	56.51	—	500,000
March 31, 2018	22,595	56.28	—	500,000
Total	125,038	\$ 57.49	—	

- (1) Represents shares delivered or attested in satisfaction of the exercise price and/or tax withholding obligations by employees who received shares of our common stock in 2018 under our share-based compensation plans, as these plans permit employees to use our stock to satisfy such obligations based on the market value of the stock on the date of exercise or date of vesting, as applicable.

In January 2008, our board of directors authorized the repurchase of up to 500,000 shares of our common stock in the open market. The repurchased shares are available for later reissuance in connection with potential future stock dividends, our dividend reinvestment plan, employee benefit plans and other general corporate purposes. In November 2011, our board of directors reaffirmed the stock buy-back authorization with the qualification that the shares may only be repurchased if the share price is below the tangible book value per share of our common stock at the time of the repurchase. No shares have been repurchased under our Common Stock Repurchase Program since the board authorization.

Item 6. Exhibits

Exhibits. The following exhibits are filed as part of this report on Form 10-Q:

Exhibit Number	Document
3.1	Restated Articles of Incorporation. Previously filed as Exhibit 3.1 to the registrant's Quarterly Report on Form 10-Q for the quarter ended March 31, 2017, filed with the SEC on May 10, 2017. Here incorporated by reference.
3.2	Bylaws. Previously filed as Exhibit 3.2 to the registrant's Annual Report on Form 10-K for the year ended December 31, 2017, filed with the SEC on February 28, 2018. Here incorporated by reference.
4.1	Restated Articles of Incorporation. Exhibit 3.1 is here incorporated by reference.
4.2	Bylaws. Exhibit 3.2 is here incorporated by reference.
31.1	Certification of Chief Executive Officer.
31.2	Certification of Chief Financial Officer.
32.1	Certification pursuant to 18 U.S.C. §1350.
101.1	Interactive Data File.

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.

CHEMICAL FINANCIAL CORPORATION

Date: May 9, 2018

By: /s/ David T. Provost
David T. Provost
Chief Executive Officer and President
(Principal Executive Officer)

Date: May 9, 2018

By: /s/ Dennis L. Klaeser
Dennis L. Klaeser
Executive Vice President and Chief Financial Officer
(Principal Financial Officer)

Date: May 9, 2018

By: /s/ Kathleen S. Wendt
Kathleen S. Wendt
Executive Vice President and Chief Accounting Officer
(Principal Accounting Officer)

Exhibit Index

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<u>Exhibit Number</u>	<u>Document</u>
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31.2	Certification of Chief Financial Officer.
32.1	Certification pursuant to 18 U.S.C. §1350.
101.1	Interactive Data File.

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Section 2: EX-31.1 (EXHIBIT 31.1)

Exhibit 31.1

Certifications

I, David T. Provost, certify that:

- I have reviewed this Quarterly Report on Form 10-Q for the quarter ended March 31, 2018 of Chemical Financial Corporation;
- Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
- Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
- The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
- The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 9, 2018

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Section 3: EX-31.2 (EXHIBIT 31.2)

Exhibit 31.2

Certifications

I, Dennis L. Klaeser, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q for the quarter ended March 31, 2018 of Chemical Financial Corporation;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 9, 2018

/s/ Dennis L. Klaeser

Dennis L. Klaeser
Executive Vice President and
Chief Financial Officer
Chemical Financial Corporation

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Section 4: EX-32.1 (EXHIBIT 32.1)

Exhibit 32.1

Certification

Pursuant to 18 U.S.C. § 1350, each of the undersigned hereby certifies in his or her capacity as an officer of Chemical Financial Corporation (the "Company") that the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2018 fully complies with the requirements of Section 13(a) of the Securities Exchange Act of 1934 and that the information contained in such report fairly presents, in all material respects, the financial condition of the Company at the end of such period and the results of operations of the Company for such period.

Dated: May 9, 2018

/s/ David T. Provost

David T. Provost

Chief Executive Officer and President

Dated: May 9, 2018

/s/ Dennis L. Klaeser

Dennis L. Klaeser
Executive Vice President and Chief Financial Officer

A signed original of this written statement required by Section 906 has been provided to Chemical Financial Corporation and will be retained by Chemical Financial Corporation and furnished to the Securities and Exchange Commission or its staff upon request.

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