

CHEMICAL FINANCIAL CORP

Form 10-Q

November 08, 2018

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 September 30, 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 38-2022454

(State or Other Jurisdiction of (I.R.S. Employer

Incorporation or Organization) Identification No.)

333 W. Fort Street, Suite 1800 48226

Detroit, Michigan

(Address of Principal Executive Offices) (Zip Code)

(800) 867-9757

(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," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer Accelerated filer

Non-accelerated filer Smaller reporting company

Emerging growth company

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

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

The number of shares outstanding of the registrant's Common Stock, \$1 par value, as of November 2, 2018, was 71,445,427 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 September 30, 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;
- operational and regulatory challenges associated with our information technology systems and policies and procedures in light of our rapid growth and systems conversion in 2018;
- our ability to grow deposits;
- 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;
 - increases in competitive pressure in the banking and financial services industry;
- the timing of when historic tax credits are placed into service could impact operating expenses;
- risks related to potential mergers and acquisitions including potential deposit attrition, higher than expected costs, customer loss and business disruption, including, without limitation, potential difficulties in maintaining relationships

with key personnel and other integration related-matters, and the potential inability to identify and successfully negotiate and complete additional successful combinations with potential merger or acquisition partners:

- 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; and
- economic, governmental, or other factors may prevent the projected population, residential, and commercial growth in the markets in which we operate.

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 or disclosed in documents filed or furnished by the Corporation with or to the SEC after the filing of such Annual Report on Form 10-K. 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)	September 30, 2018 (Unaudited)	December 31, 2017
Assets		
Cash and cash equivalents:		
Cash and cash due from banks	\$285,605	\$226,003
Interest-bearing deposits with the Federal Reserve Bank and other banks	379,158	229,988
Total cash and cash equivalents	664,763	455,991
Investment securities:		
Carried at fair value	2,736,880	1,963,546
Held-to-maturity, at amortized cost (fair value of \$598,197 and \$662,906, respectively)	608,367	677,093
Total investment securities	3,345,247	2,640,639
Loans held-for-sale, at fair value	93,736	52,133
Loans	14,796,252	14,155,267
Allowance for loan losses	(104,041)	(91,887)
Net loans	14,692,211	14,063,380
Premises and equipment	123,305	126,896
Loan servicing rights, at fair value	72,707	63,841
Goodwill	1,134,568	1,134,568
Other intangible assets	29,981	34,271
Interest receivable and other assets	748,971	709,154
Total assets	\$20,905,489	\$19,280,873
Liabilities		
Deposits:		
Noninterest-bearing	\$4,015,323	\$3,725,779
Interest-bearing	11,429,529	9,917,024
Total deposits	15,444,852	13,642,803
Collateralized customer deposits	377,471	415,236
Short-term borrowings	1,670,000	2,000,000
Long-term borrowings	430,971	372,882
Interest payable and other liabilities	193,271	181,203
Total liabilities	18,116,565	16,612,124
Shareholders' equity		
Preferred stock, no par value:		
Authorized – 2,000,000 shares at 9/30/18 and 12/31/17, none issued	—	—
Common stock, \$1.00 par value per share:		
Authorized – 135,000,000 shares at 9/30/18 and 12/31/17		
Issued and outstanding – 71,437,826 shares at 9/30/18 and 71,207,114 shares at 12/31/17	71,438	71,207
Additional paid-in capital	2,207,631	2,203,637
Retained earnings	567,510	419,403
Accumulated other comprehensive loss	(57,655)	(25,498)
Total shareholders' equity	2,788,924	2,668,749
Total liabilities and shareholders' equity	\$20,905,489	\$19,280,873
See accompanying notes to Consolidated Financial Statements (unaudited).		

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Chemical Financial Corporation
Consolidated Statements of Income
(Unaudited)

(Dollars in thousands, except per share data)	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Interest income				
Interest and fees on loans	\$ 172,686	\$ 148,771	\$ 494,892	\$ 422,570
Interest on investment securities:				
Taxable	16,360	9,326	43,485	21,207
Tax-exempt	6,178	4,577	17,732	13,238
Dividends on nonmarketable equity securities	1,368	1,039	5,458	2,906
Interest on deposits with the Federal Reserve Bank, other banks and Federal funds sold	1,785	1,231	4,326	3,052
Total interest income	198,377	164,944	565,893	462,973
Interest expense				
Interest on deposits	27,250	12,926	62,874	32,424
Interest on collateralized customer deposits	721	462	1,886	808
Interest on short-term borrowings	9,510	6,129	28,084	12,100
Interest on long-term borrowings	1,415	1,799	4,168	5,968
Total interest expense	38,896	21,316	97,012	51,300
Net interest income	159,481	143,628	468,881	411,673
Provision for loan losses	6,028	5,499	21,856	15,778
Net interest income after provision for loan losses	153,453	138,129	447,025	395,895
Noninterest income				
Service charges and fees on deposit accounts	8,187	9,147	25,265	25,928
Wealth management revenue	6,040	6,188	19,539	18,973
Other charges and fees for customer services	6,481	6,624	18,109	25,249
Net gain on sale of loans and other mortgage banking revenue	9,837	5,241	31,216	24,280
Net gain on sale of investment securities	—	1	3	168
Other	7,372	4,921	22,357	17,102
Total noninterest income	37,917	32,122	116,489	111,700
Operating expenses				
Salaries, wages and employee benefits	56,894	52,590	168,599	164,731
Occupancy	8,620	6,871	24,310	23,008
Equipment and software	8,185	7,582	24,120	24,248
Outside processing and service fees	12,660	9,626	33,689	26,061
Merger expenses	—	2,379	—	7,011
Restructuring expenses	—	18,824	—	18,824
Other	23,302	21,667	65,114	58,089
Total operating expenses	109,661	119,539	315,832	321,972
Income before income taxes	81,709	50,712	247,682	185,623
Income tax expense	11,312	10,253	36,701	45,546
Net income	\$ 70,397	\$ 40,459	\$ 210,981	\$ 140,077
Earnings per common share:				
Basic	\$ 0.99	\$ 0.57	\$ 2.96	\$ 1.98
Diluted	\$ 0.98	\$ 0.56	\$ 2.93	\$ 1.95
Cash dividends declared per common share	\$ 0.34	\$ 0.28	\$ 0.90	\$ 0.82

See accompanying notes to Consolidated Financial Statements (unaudited).

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Chemical Financial Corporation
Consolidated Statements of Comprehensive Income
(Unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
(Dollars in thousands)				
Net income	\$70,397	\$40,459	\$210,981	\$140,077
Other comprehensive income, net of tax:				
Unrealized holding gains (losses) on securities available-for-sale arising during the period	(16,634)	1,376	(55,863)	9,643
Reclassification adjustment for gains on realized income	—	(1)	(3)	(168)
Tax effect	3,493	(481)	11,732	(3,316)
Net unrealized gains (losses) on securities available-for-sale, net of tax	(13,141)	894	(44,134)	6,159
Unrealized gains on interest rate swaps designated as cash flow hedges	4,111	550	16,176	84
Reclassification adjustment for (gains) losses included in net income	(662)	575	(1,009)	984
Tax effect	(724)	(374)	(3,185)	(374)
Net unrealized gains on interest rate swaps designated as cash flow hedges, net of tax	2,725	751	11,982	694
Plan remeasurement	—	11,238	—	11,238
Adjustment for pension and other postretirement benefits	142	537	426	1,613
Tax effect	(30)	(4,121)	(90)	(4,498)
Net adjustment for pension and other postretirement benefits	112	7,654	336	8,353
Other comprehensive income (loss), net of tax	(10,304)	9,299	(31,816)	15,206
Total comprehensive income, net of tax	\$60,093	\$49,758	\$179,165	\$155,283

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
For the three months ended September 30, 2018					
Beginning Balance	\$ 71,418	\$ 2,205,402	\$ 521,530	\$ (47,351)	\$ 2,750,999
Comprehensive income			70,397	(10,304)	60,093
Cash dividends declared and paid of \$0.34 per share			(24,417)		(24,417)
Net shares issued under share-based compensation plans	20	316			336
Share-based compensation expense	—	1,913			1,913
Ending Balance	\$ 71,438	\$ 2,207,631	\$ 567,510	\$ (57,655)	\$ 2,788,924
For the three months ended September 30, 2017					
Beginning Balance	\$ 71,131	\$ 2,197,501	\$ 404,939	\$ (34,129)	\$ 2,639,442
Comprehensive income			40,459	9,299	49,758
Cash dividends declared and paid of \$0.28 per share			(19,965)		(19,965)
Net shares issued under share-based compensation plans	21	(3,813)			(3,792)
Share-based compensation expense	—	7,646			7,646
Ending Balance	\$ 71,152	\$ 2,201,334	\$ 425,433	\$ (24,830)	\$ 2,673,089
For the nine months ended September 30, 2018					
Beginning Balance	\$ 71,207	\$ 2,203,637	\$ 419,403	\$ (25,498)	\$ 2,668,749
Cumulative effect adjustment of change in accounting policy, net of tax impact ⁽¹⁾			1,680	(341)	1,339
Comprehensive income			210,981	(31,816)	179,165
Cash dividends declared and paid of \$0.90 per share			(64,554)		(64,554)
Net shares issued under share-based compensation plans	231	(1,997)			(1,766)
Share-based compensation expense	—	5,991			5,991
Ending Balance	\$ 71,438	\$ 2,207,631	\$ 567,510	\$ (57,655)	\$ 2,788,924
For the nine months ended September 30, 2017					
Beginning Balance	\$ 70,599	\$ 2,210,762	\$ 340,201	\$ (40,036)	\$ 2,581,526
Cumulative effect adjustment of change in accounting policy, net of tax impact ⁽²⁾			3,659		3,659
Comprehensive income			140,077	15,206	155,283
Cash dividends declared and paid of \$0.82 per share			(58,504)		(58,504)
Net shares issued under share-based compensation plans	553	(24,001)			(23,448)
Share-based compensation expense	—	14,573			14,573
Ending Balance	\$ 71,152	\$ 2,201,334	\$ 425,433	\$ (24,830)	\$ 2,673,089

Refer to Note 1, Basis of Presentation and Significant Accounting Policies, Note 3, Investment Securities, Note 5,

(1) 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.

(2) 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.

See accompanying notes to Consolidated Financial Statements (unaudited).

Chemical Financial Corporation
Consolidated Statements of Cash Flows
(Unaudited)

	Nine Months Ended September 30,	
(Dollars in thousands)	2018	2017
Cash flows from operating activities		
Net income	\$210,981	\$140,077
Adjustments to reconcile net income to net cash provided by operating activities:		
Provision for loan losses	21,856	15,778
Gains on sales of loans	(9,772)	(26,537)
Proceeds from sales of loans	569,768	601,694
Loans originated for sale	(599,671)	(577,874)
Net gains on sale of investment securities	(3)	(168)
Net losses (gains) from sales/writedowns of other real estate and repossessed assets	473	(597)
Depreciation of premises and equipment	12,735	13,444
Amortization of intangible assets	4,290	4,564
Additions to loan servicing rights	(6,337)	(6,461)
Valuation change in loan servicing rights	(2,529)	8,242
Net amortization of premiums and discounts on investment securities	14,174	13,933
Share-based compensation expense	5,991	14,573
Deferred income tax expense	18,134	36,508
Change in deferred tax valuation allowance	(456)	60
Net increase in interest receivable and other assets	(34,702)	(148,180)
Net increase in interest payable and other liabilities	12,583	40,181
Net cash provided by operating activities	217,515	129,237
Cash flows from investing activities		
Debt securities – available-for-sale:		
Proceeds from maturities, calls and principal reductions	223,049	227,854
Proceeds from sales and redemptions	4,215	17,085
Purchases	(1,069,703)	(1,041,744)
Investment securities – held-to-maturity:		
Proceeds from maturities, calls and principal reductions	91,317	73,762
Purchases	(23,523)	(109,704)
Net increase in loans	(661,400)	(862,498)
Proceeds from sales of other real estate and repossessed assets	10,156	15,569
Purchases of premises and equipment, net of disposals	(9,144)	(11,616)
Proceeds from returns of investment in equity method investments	326	143
Net cash used in investing activities	(1,434,707)	(1,691,149)
Cash flows from financing activities		
Net increase in interest- and noninterest-bearing demand deposits and savings accounts	1,153,767	828,517
Net increase in time deposits	648,282	103,606
Net (decrease) increase in collateralized customer deposits and other short-term borrowings	(367,765)	1,146,550
Proceeds from issuance of long-term borrowings	200,000	—
Repayment of long-term borrowings	(142,000)	(200,000)
Cash dividends paid	(64,554)	(58,504)
Proceeds from directors' stock plans and exercise of stock options, net of shares withheld	3,016	3,353
Cash paid for payroll taxes upon conversion of share-based awards	(4,782)	(26,801)
Net cash provided by financing activities	1,425,964	1,796,721
Net increase in cash and cash equivalents	208,772	234,809

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Cash and cash equivalents at beginning of period	455,991	474,402
Cash and cash equivalents at end of period	\$664,763	\$709,211
Supplemental disclosures of cash flow information:		
Interest paid	\$93,150	\$51,505
Net income tax payments	4,599	9,922
Non-cash activities:		
Loans transferred to other real estate and repossessed assets	8,785	8,972
Net transfer of loans held-for-sale to loans held- for-investment	(1,928)	(2,651)
Closed branch offices transferred to other assets	—	1,634
Business combinations:		
Fair value of tangible assets acquired (noncash)	\$—	\$420
Goodwill, loans servicing rights and other identifiable intangible assets acquired	—	1,034
Liabilities assumed	—	1,454
See accompanying notes to Consolidated Financial Statements (unaudited).		

Chemical Financial Corporation
Notes to Consolidated Financial Statements (Unaudited)
September 30, 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 Detroit, 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 six 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 nine months ended September 30, 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)
September 30, 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	January 1, 2018 under the modified retrospective method	A large majority 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

principles under GAAP and International Financial Reporting Standards and to streamline revenue recognition requirements in addition to expanding required revenue recognition disclosures.

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 and Repossessed Assets, for further detail.

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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 readily determinable fair values to be measured at fair value with changes in fair value recognized in net income, (ii) allowing an entity to measure equity investments that do not have readily determinable fair values at either fair value or cost minus impairment, changes in measurement is recognized in net income, (iii) simplifying impairment assessment of equity investments without readily determinable fair values by requiring a qualitative assessment to identify impairment, (iv) eliminating the requirement to disclose the methods and assumptions used to estimate the fair value of financial instruments measured at amortized cost; (v) requiring the use of exit price notion when measuring the fair value of financial instruments; (vi) requiring recognition of changes 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 using a modified retrospective approach with the exception of disclosure requirements which are adopted on a prospective basis	The Corporation identified available-for-sale investment securities qualifying as equity investments in the securities portfolio at January 1, 2018. 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 restatements. Cash flow issues include: debt prepayment or debt extinguishment costs, settlement of insurance claims, proceeds from the settlement of corporate-owned and bank-owned life insurance policies, distribution received from equity method investees, beneficial interests in securitization transactions and separately	January 1, 2018 using retrospective application	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.

identifiable cash flows and application of the predominance principle.

<p>ASU No. 2017-07 - Compensation - Retirement Benefits (Topic 715): Improving the Presentation of Net Periodic Pension Cost ("ASU 2017-07")</p>	<p>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 disaggregate current service costs from other components of net benefit cost and present it with other compensation cost. Additionally net benefit cost becomes eligible for capitalization.</p>	<p>January 1, 2018 using the retrospective transition method</p>	<p>The adoption resulted in a reclassification of \$31 thousand and \$0.7 million of net periodic income from salaries, wages and employee benefits expense to other expenses on the Consolidated Statements of Income during the three and nine months ended September 30, 2017, respectively.</p>
<p>ASU No. 2017-12, Derivatives and Hedging (Topic 815): Targeted Improvement to Accounting for Hedging Activities ("ASU 2017-12")</p>	<p>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.</p>	<p>January 1, 2018</p>	<p>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.</p>
<p>ASU No. 2018-15 - Intangible-Goodwill and Other-Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract ("ASU 2018-15")</p>	<p>ASU 2018-15 clarifies the accounting treatment for implementation costs for hosting arrangements that are service contracts. The amendments in this update align the requirements for capitalizing implementation costs incurred in a hosting arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal use software in accordance with subtopic 350-40. Under this guidance costs for implementation activities during the development stage shall be capitalized. The said capitalized-costs shall be expensed over the term of the hosting arrangement.</p>	<p>Third quarter of 2018 applied retrospectively</p>	<p>The early adoption in the third quarter did not have a material effect on the Consolidated Financial Statements.</p>

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Effective during the nine months ended 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

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 — carried at fair value, 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 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 and government-sponsored agency securities, including securities issued by the Federal Home Loan Bank

("FHLB"), 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 impaired loans, goodwill, core deposit intangible assets, non-compete intangible assets, LSRs and other real estate and repossessed assets.

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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 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 are recorded at fair value on a recurring basis with the exception of those classified as held-to-maturity. 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 September 30, 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.

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Foreign exchange forward and option contracts are entered into primarily to accommodate the needs of the customer. These derivatives are not designated as hedging. Fair value of foreign exchange forward and option contracts are measured on a recurring basis using third party models that use primarily market observable inputs, such as yield curves and option volatilities. The Corporation classifies its foreign exchange forward and option contracts 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
September 30, 2018				
Investment securities – carried at fair value:				
Government and government-sponsored agencies	\$	—\$254,453	\$ —	\$254,453
State and political subdivisions	—	491,909	—	491,909
Residential mortgage-backed securities	—	177,021	—	177,021
Collateralized mortgage obligations	—	1,477,818	—	1,477,818
Corporate bonds	—	287,405	—	287,405
Trust preferred securities	—	48,274	—	48,274
Total investment securities – carried at fair value	—	2,736,880	—	2,736,880
Loans held-for-sale	—	93,736	—	93,736
Loan servicing rights	—	—	72,707	72,707
Derivative assets:				
Customer-initiated derivatives	—	21,390	—	21,390
Foreign exchange forwards	—	3	—	3
Forward contracts related to mortgage loans to be delivered for sale	—	760	—	760
Interest rate lock commitments	—	1,081	—	1,081
Power Equity CD	—	1,260	—	1,260
Risk management derivatives	—	21,067	—	21,067
Total derivatives	—	45,561	—	45,561
Total assets at fair value	\$	—\$2,876,177	\$ 72,707	\$2,948,884
Derivative liabilities:				
Customer-initiated derivatives	\$	—\$21,703	\$ —	\$21,703
Foreign exchange forwards	—	3	—	3
Power Equity CD	—	1,260	—	1,260
Total derivatives	—	22,966	—	22,966
Total liabilities at fair value	\$	—\$22,966	\$ —	\$22,966
December 31, 2017				
Investment securities – available-for-sale:				
Government and 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

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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 nine months ended September 30, 2018 and 2017.

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

	Three Months		Nine Months	
	Ended September		Ended September	
	30,	30,	30,	2017
	2018	2017	2018	2017
(Dollars in thousands)				
Balance, beginning of period	\$70,364	\$64,522	\$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"	257	(4,651)	2,529	(8,242)
New originations	2,086	2,324	6,337	6,461
Balance, end of period	\$72,707	\$62,195	\$72,707	\$62,195

⁽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 September 30, 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)	September	December
	30, 2018	31, 2017
Aggregate fair value	\$ 93,736	\$ 52,133
Contractual balance	91,839	50,597
Unrealized gain (loss)	1,897	1,536

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

	Three Months		Nine Months	
	Ended		Ended September	
	September 30,	September 30,	September 30,	September 30,
	2018	2017	2018	2017
(Dollars in thousands)				
Interest income ⁽¹⁾	\$849	\$810	\$1,670	\$1,824
Change in fair value ⁽²⁾	577	614	361	2,002
Net gain on sales of loans ⁽²⁾	4,241	6,512	9,772	26,537
Total included in earnings	\$5,667	\$7,936	\$11,803	\$30,363

- (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.

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 an 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,

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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 September 30, 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 September 30, 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

Certain assets may be required to be measured at fair value on a nonrecurring basis. The carrying value of these assets represent end of period values, which approximate the fair value measurements that occurred on the various measurement dates during the period. 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)
September 30, 2018	
Impaired loans	\$ 73,137
Other real estate and repossessed assets	1,843
Total	\$ 74,980
December 31, 2017	
Impaired loans	\$ 70,619
Other real estate and repossessed assets	2,899
Total	\$ 73,518

There were no liabilities recorded at fair value on a nonrecurring basis at either September 30, 2018 or 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 September 30, 2018	Valuation Technique	Significant Unobservable Inputs	Range
Impaired loans	\$ 73,137	Appraisal of collateral	Discount for type of collateral and age of appraisal	20%-30%
Other real estate and repossessed assets	1,843	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. 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 the exit-price notion following the adoption of ASU 2016-01 on January 1, 2018 and used the present value method prior to the adoption of ASU 2016-01, 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, are not necessarily indicative of amounts that would 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	September 30, 2018		December 31, 2017	
		Carrying Amount	Fair Value	Carrying Amount	Fair Value
Financial assets:					
Investment securities:					
Held-to-maturity	Level 2	\$607,867	\$597,747	\$676,593	\$662,516
Held-to-maturity	Level 3	500	450	500	390
Net loans ⁽¹⁾	Level 3	14,692,211	14,301,208	14,063,380	14,114,545
Financial liabilities:					
Time deposits	Level 2	\$3,865,489	\$3,827,695	\$3,217,207	\$3,225,847
Collateralized customer deposits	Level 2	377,471	376,969	415,236	415,236
Short-term borrowings	Level 2	1,670,000	1,669,662	2,000,000	1,999,137
Long-term borrowings	Level 2	430,971	426,105	372,882	367,984

⁽¹⁾ Included \$73.1 million and \$70.6 million of impaired loans recorded at fair value on a nonrecurring basis at September 30, 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 September 30, 2018 and December 31, 2017:

(Dollars in thousands)	Investment Securities Carried at Fair Value			
	Amortized Cost	Unrealized Gains	Unrealized Losses	Fair Value
September 30, 2018				
Debt securities				
Government and government-sponsored agencies	\$258,643	\$ 14	\$ 4,204	\$254,453
State and political subdivisions	506,277	187	14,555	491,909
Residential mortgage-backed securities	182,983	6	5,968	177,021
Collateralized mortgage obligations	1,517,172	—	39,354	1,477,818
Corporate bonds	293,828	485	6,908	287,405
Trust preferred securities	47,378	1,004	108	48,274
Total	\$2,806,281	\$ 1,696	\$ 71,097	\$2,736,880
December 31, 2017				
Debt securities				
Government and 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
Equity securities				
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

(Dollars in thousands)	Investment Securities Held-to-Maturity			
	Amortized Cost	Unrealized Gains	Unrealized Losses	Fair Value
September 30, 2018				
State and political subdivisions	\$607,867	\$ 1,917	\$ 12,037	\$597,747
Trust preferred securities	500	—	50	450
Total	\$608,367	\$ 1,917	\$ 12,087	\$598,197
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

Investment securities are classified at the time they are acquired as either available-for-sale, held-to-maturity or carried 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 recorded 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

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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 are recognized in net income, rather than in accumulated other comprehensive income. The Corporation sold its remaining position in equity securities during the second quarter of 2018. 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 investment securities carried at fair value and the associated gains and losses recorded in earnings are listed below:

	Three Months Ended September 30, 2017	Nine Months Ended September 30, 2018	2017
(Dollars in thousands)			
Proceeds	\$ 7,035	\$ 4,215	\$ 17,085
Gross gains	1	42	168
Gross losses	—	(39)	—

The following is a summary of the amortized cost and fair value of investment securities at September 30, 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)	September 30, 2018	
	Amortized Cost	Fair Value
Investment Securities Carried at Fair Value:		
Due in one year or less	\$ 32,586	\$ 32,424
Due after one year through five years	121,421	119,478
Due after five years through ten years	455,582	443,027
Due after ten years	2,196,692	2,141,951
Total	\$ 2,806,281	\$ 2,736,880
Investment Securities Held-to-Maturity:		
Due in one year or less	\$ 57,403	\$ 57,248
Due after one year through five years	221,335	218,555
Due after five years through ten years	157,517	153,997
Due after ten years	172,112	168,397
Total	\$ 608,367	\$ 598,197

Securities with a carrying value of \$1.02 billion and \$937.2 million were pledged at September 30, 2018 and December 31, 2017, respectively, to secure borrowings and deposits.

At September 30, 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 September 30, 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 September 30, 2018, the Corporation's securities portfolio consisted of 2,074 securities, 1,525 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
September 30, 2018						
Government sponsored agencies	\$204,095	\$ 2,564	\$39,573	\$ 1,640	\$243,668	\$ 4,204
State and political subdivisions	563,202	14,773	414,480	11,819	977,682	26,592
Residential mortgage-backed securities	119,911	2,907	55,068	3,061	174,979	5,968
Collateralized mortgage obligations	990,167	19,414	456,347	19,940	1,446,514	39,354
Corporate bonds	141,365	3,773	76,955	3,135	218,320	6,908
Trust preferred securities	13,716	60	2,789	98	16,505	158
Total	\$2,032,456	\$ 43,491	\$ 1,045,212	\$ 39,693	\$3,077,668	\$ 83,184
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 September 30, 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 September 30, 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 September 30, 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 September 30, 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.

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

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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 September 30, 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 watercraft and comprised primarily of indirect loans purchased from dealers. These loans generally 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 \$93.7 million at September 30, 2018 and \$52.1 million at December 31, 2017. The Corporation sold loans totaling \$177.2 million and \$569.8 million during the three and nine months ended September 30, 2018, respectively and \$210.2 million and \$601.7 million during the three and nine months ended September 30, 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
September 30, 2018			
Commercial loan portfolio:			
Commercial	\$2,951,453	\$768,469	\$3,719,922
Commercial real estate:			
Owner-occupied	1,334,588	563,346	1,897,934
Non-owner occupied	1,875,155	864,545	2,739,700
Vacant land	46,463	27,524	73,987
Total commercial real estate	3,256,206	1,455,415	4,711,621
Real estate construction and land development	554,701	67,446	622,147
Subtotal	6,762,360	2,291,330	9,053,690
Consumer loan portfolio:			
Residential mortgage	2,285,611	1,106,376	3,391,987
Consumer installment	1,483,540	76,725	1,560,265
Home equity	613,931	176,379	790,310
Subtotal	4,383,082	1,359,480	5,742,562
Total loans ⁽²⁾	\$11,145,442	\$3,650,810	\$14,796,252
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 \$19.0 million and \$26.1 million at September 30, 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 September 30, 2018						
Balance at beginning of period	\$616,168	\$80,442	\$20,131	\$ 49,731	\$14,292	\$780,764
Accretion recognized in interest income	(40,695)	(5,980)	(919)	(4,341)	(2,338)	(54,273)
Net reclassification (to) from nonaccretable difference ⁽¹⁾	20,250	3,108	(376)	(765)	(1,149)	21,068
Balance at end of period	\$595,723	\$77,570	\$18,836	\$ 44,625	\$10,805	\$747,559
Three Months Ended September 30, 2017						
Balance at beginning of period	\$801,369	\$121,572	\$24,270	\$ 71,212	\$19,796	\$1,038,219
Accretion recognized in interest income	(43,816)	(7,201)	(1,119)	(5,263)	(3,004)	(60,403)
Net reclassification (to) from nonaccretable difference ⁽¹⁾	11,861	(14,482)	168	(1,358)	1,999	(1,812)
Balance at end of period	\$769,414	\$99,889	\$23,319	\$ 64,591	\$18,791	\$976,004
Nine Months Ended September 30, 2018						
Balance at beginning of period	\$731,353	\$95,124	\$22,496	\$ 60,814	\$17,110	\$926,897
Accretion recognized in interest income	(125,471)	(19,040)	(3,037)	(13,863)	(8,323)	(169,734)
Net reclassification (to) from nonaccretable difference ⁽¹⁾	(10,159)	1,486	(623)	(2,326)	2,018	(9,604)
Balance at end of period	\$595,723	\$77,570	\$18,836	\$ 44,625	\$10,805	\$747,559
Nine Months Ended September 30, 2017						
Balance at beginning of period	\$798,210	\$121,416	\$27,182	\$ 69,847	\$23,316	\$1,039,971
Accretion recognized in interest income	(133,478)	(22,050)	(3,459)	(15,222)	(9,595)	(183,804)
Net reclassification (to) from nonaccretable difference ⁽¹⁾	104,682	523	(404)	9,966	5,070	119,837
Balance at end of period	\$769,414	\$99,889	\$23,319	\$ 64,591	\$18,791	\$976,004

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

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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.

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 September 30, 2018 and December 31, 2017:

(Dollars in thousands)	Pass	Special Mention	Substandard	Doubtful	Total
September 30, 2018					
Originated Portfolio:					
Commercial	\$2,840,100	\$54,258	\$ 57,095	\$ —	\$2,951,453
Commercial real estate:					
Owner-occupied	1,265,111	33,290	36,168	19	1,334,588
Non-owner occupied	1,854,887	12,542	7,726	—	1,875,155
Vacant land	40,904	480	5,076	3	46,463
Total commercial real estate	3,160,902	46,312	48,970	22	3,256,206
Real estate construction and land development	517,561	5,100	32,040	—	554,701
Subtotal	6,518,563	105,670	138,105	22	6,762,360
Acquired Portfolio:					
Commercial	707,054	36,227	25,188	—	768,469
Commercial real estate:					
Owner-occupied	505,246	29,840	28,249	11	563,346
Non-owner occupied	805,466	31,647	27,432	—	864,545
Vacant land	27,311	213	—	—	27,524
Total commercial real estate	1,338,023	61,700	55,681	11	1,455,415
Real estate construction and land development	66,294	138	1,014	—	67,446
Subtotal	2,111,371	98,065	81,883	11	2,291,330
Total	\$8,629,934	\$203,735	\$ 219,988	\$ 33	\$9,053,690
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 September 30, 2018 and December 31, 2017:

(Dollars in thousands)	Residential Mortgage	Consumer Installment	Home Equity	Total Consumer
September 30, 2018				
Originated Loans:				
Performing	\$2,276,000	\$1,482,190	\$ 610,662	\$4,368,852
Nonperforming	9,611	1,350	3,269	14,230
Subtotal	2,285,611	1,483,540	613,931	4,383,082
Acquired Loans	1,106,376	76,725	176,379	1,359,480
Total	\$3,391,987	\$1,560,265	\$ 790,310	\$5,742,562
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	1,967,857	1,510,540	611,846	4,090,243
Acquired Loans	1,284,630	102,468	217,399	1,604,497
Total	\$3,252,487	\$1,613,008	\$ 829,245	\$5,694,740

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)	September 30, 2018	December 31, 2017
Nonperforming assets		
Nonaccrual loans:		
Commercial	\$ 25,328	\$ 19,691
Commercial real estate:		
Owner-occupied	14,936	19,070
Non-owner occupied	8,991	5,270
Vacant land	4,711	5,205
Total commercial real estate	28,638	29,545
Real estate construction and land development	28,477	77
Residential mortgage	9,611	8,635
Consumer installment	1,350	842
Home equity	3,269	4,305
Total nonaccrual loans	96,673	63,095
Other real estate owned and repossessed assets	6,584	8,807
Total nonperforming assets	\$ 103,257	\$ 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	\$ 632	\$ —
Commercial real estate:		
Owner-occupied	47	—
Non-owner occupied	—	13
Total commercial real estate	47	13
Real estate construction and land development	38	—
Home equity	475	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	\$ 1,192	\$ 1,377

The Corporation's nonaccrual loans at September 30, 2018 and December 31, 2017 included \$28.1 million and \$29.1 million, respectively, of nonaccrual TDRs.

The Corporation had \$5.4 million of residential mortgage loans that were in the process of foreclosure at September 30, 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
September 30, 2018							
Originated Portfolio:							
Commercial	\$9,280	\$8,770	\$12,855	\$30,905	\$2,920,548	\$2,951,453	\$ 632
Commercial real estate:							
Owner-occupied	8,052	2,440	8,458	18,950	1,315,638	1,334,588	47
Non-owner occupied	1,993	762	2,054	4,809	1,870,346	1,875,155	—
Vacant land	277	1,399	2,460	4,136	42,327	46,463	—
Total commercial real estate	10,322	4,601	12,972	27,895	3,228,311	3,256,206	47
Real estate construction and land development	1,244	13,238	15,277	29,759	524,942	554,701	38
Residential mortgage	3,889	1,576	4,752	10,217	2,275,394	2,285,611	—
Consumer installment	3,555	657	617	4,829	1,478,711	1,483,540	—
Home equity	5,185	1,123	1,704	8,012	605,919	613,931	475
Total	\$33,475	\$29,965	\$48,177	\$111,617	\$11,033,825	\$11,145,442	\$ 1,192
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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Chemical Financial Corporation
Notes to Consolidated Financial Statements (Unaudited)
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The following schedules present impaired loans by classes of loans at September 30, 2018 and December 31, 2017:

(Dollars in thousands)	Recorded Investment	Unpaid Principal Balance	Related Valuation Allowance
September 30, 2018			
Impaired loans with a valuation allowance:			
Commercial	\$ 13,394	\$ 16,109	\$ 1,110
Commercial real estate:			
Owner-occupied	13,278	15,607	1,281
Non-owner occupied	3,187	4,595	142
Vacant land	2,130	2,130	373
Total commercial real estate	18,595	22,332	1,796
Real estate construction and land development	28,575	28,575	650
Residential mortgage	12,879	12,879	1,146
Consumer installment	1,071	1,071	117
Home equity	3,697	3,697	255
Subtotal	78,211	84,663	5,074
Impaired loans with no related valuation allowance:			
Commercial	25,021	26,427	—
Commercial real estate:			
Owner-occupied	10,852	11,490	—
Non-owner occupied	12,161	13,099	—
Vacant land	2,859	3,945	—
Total commercial real estate	25,872	28,534	—
Real estate construction and land development	140	207	—
Residential mortgage	7,988	7,988	—
Consumer installment	475	475	—
Home equity	1,743	1,743	—
Subtotal	61,239	65,374	—
Total impaired loans:			
Commercial	38,415	42,536	1,110
Commercial real estate:			
Owner-occupied	24,130	27,097	1,281
Non-owner occupied	15,348	17,694	142
Vacant land	4,989	6,075	373
Total commercial real estate	44,467	50,866	1,796
Real estate construction and land development	28,715	28,782	650
Residential mortgage	20,867	20,867	1,146
Consumer installment	1,546	1,546	117
Home equity	5,440	5,440	255
Total	\$ 139,450	\$ 150,037	\$ 5,074

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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 and nine months ended September 30, 2018 and 2017, and the respective interest income amounts recognized:

(Dollars in thousands)	Three Months Ended September 30, 2018		Three Months Ended September 30, 2017		Nine Months Ended September 30, 2018		Nine Months Ended September 30, 2017	
	Average recorded investment	Interest income recognized while on impaired status	Average recorded investment	Interest income recognized while on impaired status	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	\$13,945	\$ 67	\$25,628	\$ 222	\$17,495	\$ 343	\$25,278	\$ 647
Commercial real estate:								
Owner-occupied	11,977	94	13,401	155	12,999	257	14,083	459
Non-owner occupied	3,697	13	2,457	17	3,271	34	2,939	68
Vacant land	1,589	7	2,442	25	2,198	39	2,098	75
Total commercial real estate	17,263	114	18,300	197	18,468	330	19,120	602
Real estate construction and land development	9,647	2	175	3	3,372	6	159	8
Residential mortgage	11,620	117	15,945	144	12,662	349	16,529	446
Consumer installment	911	3	748	1	961	6	737	3
Home equity	3,022	20	4,369	21	3,176	58	4,154	58
Subtotal	\$56,408	\$ 323	\$65,165	\$ 588	\$56,134	\$ 1,092	\$65,977	\$ 1,764
Impaired loans with no related valuation allowance:								
Commercial	\$24,114	\$ 123	\$10,120	\$ 14	\$20,773	\$ 365	\$10,142	\$ 92
Commercial real estate:								
Owner-occupied	13,831	68	13,009	1	14,588	205	10,862	13
Non-owner occupied	12,776	81	8,942	88	9,825	184	9,487	255
Vacant land	2,874	—	3,484	12	2,694	—	4,348	36
Total commercial real estate	29,481	149	25,435	101	27,107	389	24,697	304
Real estate construction and land development	3,857	2	71	—	1,986	5	86	—
Residential mortgage	8,605	31	5,144	8	7,272	79	4,511	25
Consumer installment	537	—	244	—	240	—	201	—
Home equity	2,191	8	1,639	—	2,241	17	1,227	6
Subtotal	\$68,785	\$ 313	\$42,653	\$ 123	\$59,619	\$ 855	\$40,864	\$ 427
Total impaired loans:								
Commercial	\$38,059	\$ 190	\$35,748	\$ 236	\$38,268	\$ 708	\$35,420	\$ 739
Commercial real estate:								
Owner-occupied	25,808	162	26,410	156	27,587	462	24,945	472
Non-owner occupied	16,473	94	11,399	105	13,096	218	12,426	323

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Vacant land	4,463	7	5,926	37	4,892	39	6,446	111
Total commercial real estate	46,744	263	43,735	298	45,575	719	43,817	906
Real estate construction and land development	13,504	4	246	3	5,358	11	245	8
Residential mortgage	20,225	148	21,089	152	19,934	428	21,040	471
Consumer installment	1,448	3	992	1	1,201	6	938	3
Home equity	5,213	28	6,008	21	5,417	75	5,381	64
Total	\$125,193	\$ 636	\$107,818	\$ 711	\$115,753	\$ 1,947	\$106,841	\$ 2,191

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Notes to Consolidated Financial Statements (Unaudited)
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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.

Impaired loans included \$43.0 million and \$48.8 million at September 30, 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 and nine months ended September 30, 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 September 30, 2018							
Commercial loan portfolio:							
Commercial	\$2,104	\$ —	\$ 165	\$ 1	13	\$ 2,277	\$ 2,270
Commercial real estate:							
Owner-occupied	438	—	—	—	2	438	438
Non-owner occupied	—	66	—	—	1	69	66
Total commercial real estate	438	66	—	—	3	507	504
Total Commercial	2,542	66	165	1	16	2,784	2,774
Consumer loan portfolio:							
Residential mortgage	—	111	108	—	2	220	219
Consumer installment	48	74	44	—	11	172	166
Home equity	91	73	64	—	4	228	228
Total Consumer	139	258	216	—	17	620	613
Total loans	\$2,681	\$ 324	\$ 381	\$ 1	33	\$ 3,404	\$ 3,387
For the nine months ended September 30, 2018							
Commercial loan portfolio:							
Commercial	\$3,747	\$ —	\$ 1,448	\$ 262	44	\$ 5,481	\$ 5,457
Commercial real estate:							
Owner-occupied	808	—	888	513	10	2,221	2,209
Non-owner occupied	68	66	—	—	2	143	134
Total commercial real estate	876	66	888	513	12	2,364	2,343
Total Commercial	4,623	66	2,336	775	56	7,845	7,800
Consumer loan portfolio:							
Residential mortgage	269	151	147	—	9	577	567
Consumer installment	134	141	82	—	36	372	357

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Home equity	357	73	179	—	13	652	609
Total Consumer	760	365	408	—	58	1,601	1,533
Total loans	\$5,383	\$ 431	\$2,744	\$ 775	114	\$ 9,446	\$ 9,333

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(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 September 30, 2017						
Commercial loan portfolio:						
Commercial	\$506	\$281	\$ 1,332	14	\$ 2,173	\$ 2,119
Commercial real estate:						
Owner-occupied	—	42	335	3	390	377
Non-owner occupied	—	27	—	1	28	27
Total commercial real estate	—	69	335	4	418	404
Real estate construction and land development	35	—	—	1	36	35
Total Commercial	541	350	1,667	19	2,627	2,558
Consumer loan portfolio:						
Residential mortgage	76	122	—	3	262	198
Consumer installment	47	7	—	11	58	54
Home equity	116	—	—	5	124	116
Total Consumer	239	129	—	19	444	368
Total loans	\$780	\$479	\$ 1,667	38	\$ 3,071	\$ 2,926
For the nine months ended September 30, 2017						
Commercial loan portfolio:						
Commercial	\$841	\$1,648	\$ 1,911	26	\$ 4,476	\$ 4,400
Commercial real estate:						
Owner-occupied	447	182	457	9	1,106	1,086
Non-owner occupied	—	27	—	1	28	27
Total commercial real estate	447	209	457	10	1,134	1,113
Real estate construction and land development	35	—	—	1	36	35
Total Commercial	1,323	1,857	2,368	37	5,646	5,548
Consumer loan portfolio:						
Residential mortgage	211	383	—	9	676	594
Consumer installment	79	7	—	17	93	86
Home equity	380	—	—	10	449	380
Total Consumer	670	390	—	36	1,218	1,060
Total loans	\$1,993	\$2,247	\$ 2,368	73	\$ 6,864	\$ 6,608

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.

The following schedule presents the Corporation's TDRs at September 30, 2018 and December 31, 2017:
(Dollars in thousands)

Total

	Accruing TDRs	Nonaccrual TDRs	
September 30, 2018			
Commercial loan portfolio	\$ 29,383	\$ 24,091	\$ 53,474
Consumer loan portfolio	13,642	3,970	17,612
Total	\$ 43,025	\$ 28,061	\$ 71,086
December 31, 2017			
Commercial loan portfolio	\$ 34,484	\$ 24,358	\$ 58,842
Consumer loan portfolio	14,298	4,748	19,046
Total	\$ 48,782	\$ 29,106	\$ 77,888

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The following schedule includes TDRs for which there was a payment default during the three and nine months ended September 30, 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:

	For The Three Months Ended September 30, 2018	For The Nine Months Ended September 30, 2018
(Dollars in thousands)	Number of loans	Number of loans
	Principal balance	Principal balance
Commercial loan portfolio (commercial)	6 \$ 981	9 \$ 1,130
Consumer loan portfolio (residential mortgage)	6 241	14 286
Total	12 \$ 1,222	23 \$ 1,416

	For The Three Months Ended September 30, 2017	For The Nine Months Ended September 30, 2017
(Dollars in thousands)	Number of loans	Number of loans
	Principal balance	Principal balance
Commercial loan portfolio (commercial)	— \$ —	5 \$ 1,617
Consumer loan portfolio (residential mortgage)	— —	5 163
Total	— \$ —	10 \$ 1,780

Commitments to lend additional funds to borrowers whose terms have been modified in TDRs totaled \$2.9 million and \$2.0 million at September 30, 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 and nine months ended September 30, 2018 and 2017.

(Dollars in thousands)	Commercial		Total
	Loan Portfolio	Consumer Loan Portfolio	
Originated Loan Portfolio			
Changes in allowance for loan losses for the three months ended September 30, 2018:			
Beginning balance	\$ 72,665	\$ 27,350	\$ 100,015
Provision for loan losses	2,064	2,994	5,058
Charge-offs	(1,048)	(2,680)	(3,728)
Recoveries	1,133	593	1,726
Ending balance	\$ 74,814	\$ 28,257	\$ 103,071
Changes in allowance for loan losses for the nine months ended September 30, 2018:			
Beginning balance	\$ 66,133	\$ 25,754	\$ 91,887
Provision for loan losses	13,387	7,499	20,886
Charge-offs	(7,532)	(6,746)	(14,278)
Recoveries	2,826	1,750	4,576
Ending balance	\$ 74,814	\$ 28,257	\$ 103,071
Changes in allowance for loan losses for the three months ended September 30, 2017:			
Beginning balance	\$ 57,955	\$ 25,842	\$ 83,797
Provision for loan losses	664	4,256	4,920
Charge-offs	(3,792)	(1,650)	(5,442)
Recoveries	1,270	636	1,906
Ending balance	\$ 56,097	\$ 29,084	\$ 85,181
Changes in allowance for loan losses for the nine months ended September 30, 2017:			
Beginning balance	\$ 51,201	\$ 27,067	\$ 78,268
Provision for loan losses	9,140	6,060	15,200
Charge-offs	(7,209)	(6,112)	(13,321)
Recoveries	2,965	2,069	5,034
Ending balance	\$ 56,097	\$ 29,084	\$ 85,181

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The following schedule presents, by loan portfolio, the changes in the allowance for the acquired loan portfolio.

(Dollars in thousands)	Commercial	Consumer	Total
	Loan Portfolio	Loan Portfolio	
Acquired Loan Portfolio			
Changes in allowance for loan losses for the three months ended September 30, 2018:			
Beginning balance	\$ —	\$ —	\$—
Provision for loan losses	970	—	970
Charge-offs	—	—	—
Recoveries	—	—	—
Ending balance	\$ 970	\$ —	\$970
Changes in allowance for loan losses for the nine months ended September 30, 2018:			
Beginning balance	\$ —	\$ —	\$—
Provision for loan losses	970	—	970
Charge-offs	—	—	—
Recoveries	—	—	—
Ending balance	\$ 970	\$ —	\$970
Changes in allowance for loan losses for the three months ended September 30, 2017:			
Beginning balance	\$ —	\$ —	\$—
Provision for loan losses	409	170	579
Charge-offs	—	—	—
Recoveries	—	—	—
Ending balance	\$ 409	\$ 170	\$579
Changes in allowance for loan losses for the nine months ended September 30, 2017:			
Beginning balance	\$ —	\$ —	\$—
Provision for loan losses	409	170	579
Charge-offs	—	—	—
Recoveries	—	—	—
Ending balance	\$ 409	\$ 170	\$579

The following schedule presents by loan portfolio segment, details regarding the balance in the allowance and the recorded investment in loans at September 30, 2018 and December 31, 2017 by impairment evaluation method.

(Dollars in thousands)	Commercial	Consumer	Total
	Loan Portfolio	Loan Portfolio	
Allowance for loan losses balance at September 30, 2018 attributable to:			
Loans individually evaluated for impairment	\$3,556	\$1,518	\$5,074
Loans collectively evaluated for impairment	71,258	26,739	97,997
Loans acquired with deteriorated credit quality	970	—	970

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Total	\$ 75,784	\$ 28,257	\$ 104,041
Recorded investment (loan balance) at September 30, 2018:			
Loans individually evaluated for impairment	\$ 111,597	\$ 27,853	\$ 139,450
Loans collectively evaluated for impairment	6,650,763	4,355,229	11,005,992
Loans acquired with deteriorated credit quality	2,291,330	1,359,480	3,650,810
Total	\$ 9,053,690	\$ 5,742,562	\$ 14,796,252

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Chemical Financial Corporation
Notes to Consolidated Financial Statements (Unaudited)
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(Dollars in thousands)	Commercial Consumer		Total
	Loan Portfolio	Loan Portfolio	
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	\$66,133	\$25,754	\$91,887
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	\$8,460,527	\$5,694,740	\$14,155,267

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⁾	5,281	3,504
Net payments received	(190) —
Disposals	(5,859	) (3,563)
Write-downs	(1,207) —
Balance at September 30, 2018	\$ 6,018	\$ 566
Balance at January 1, 2017	\$ 16,812	\$ 375
Additions ⁽²⁾	5,339	3,633
Net payments received	(582) —
Disposals	(10,180	) (3,469)
Write-downs	(1,323) —
Balance at September 30, 2017	\$ 10,066	\$ 539

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

⁽¹⁾ 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 September 30, 2018, the Corporation had \$1.5 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 \$5.4 million of consumer mortgage loans secured by residential real estate properties for which formal foreclosure proceedings are in process as of September 30, 2018.

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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 September 30, 2018		
Net gain (loss) on sale	\$ 224	\$ (175)
Write-downs	(424)) —
Net operating expenses	(93 )	) (2)
Total	\$ (293 )	) \$ (177)
For the nine months ended September 30, 2018		
Net gain (loss) on sale	\$ 1,003	\$ (269)
Write-downs	(1,207)) —
Net operating expenses	(808 )	) (5)
Total	\$ (1,012 )	) \$ (274)
For the three months ended September 30, 2017		
Net gain (loss) on sale	\$ 388	\$ (112)
Write-downs	(550)) —
Net operating expenses	(509 )	) (1)
Total	\$ (671 )	) \$ (113)
For the nine months ended September 30, 2017		
Net gain (loss) on sale	\$ 2,203	\$ (283)
Write-downs	(1,323)) —
Net operating expenses	(1,727 )	) (8)
Total	\$ (847 )	) \$ (291)

Note 6: Goodwill

Goodwill was \$1.13 billion at both September 30, 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 September 30, 2018 and that the Corporation's goodwill was not impaired at September 30, 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.

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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 September 30, 2018			
Fair value, beginning of period	\$ 457	\$69,907	\$70,364
Additions from loans sold with servicing retained	51	2,035	2,086
Changes in fair value due to:			
Reductions from pay-offs, pay downs and run-off	(28	) (647	) (675
Changes in estimates of fair value ⁽¹⁾	—	932	932
Fair value, end of period	\$ 480	\$72,227	\$72,707
For the nine months ended September 30, 2018			
Fair value, beginning of period	\$ 427	\$63,414	\$63,841
Additions from loans sold with servicing retained	139	6,198	6,337
Changes in fair value due to:	0	0	
Reductions from pay-offs, pay downs and run-off	(86	) (2,039	) (2,125
Changes in estimates of fair value ⁽¹⁾	—	4,654	4,654
Fair value, end of period	\$ 480	\$72,227	\$72,707
Principal balance of loans serviced	\$ 42,070	\$6,869,131	\$6,911,201
For the three months ended September 30, 2017			
Fair value, beginning of period	\$ 486	\$64,036	\$64,522
Additions from loans sold with servicing retained	—	2,324	2,324
Changes in fair value due to:			0
Reductions from pay-offs, pay downs and run-off	(31	) (579	) (610
Changes in estimates of fair value ⁽¹⁾	—	(4,041	) (4,041
Fair value, end of period	\$ 455	\$61,740	\$62,195
For the nine months ended September 30, 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	188	6,273	6,461
Changes in fair value due to:			
Reductions from pay-offs, pay downs and run-off	(77	) (1,803	) (1,880
Change in estimates of fair value ⁽¹⁾	—	(6,362	) (6,362
Fair value, end of period	\$ 455	\$61,740	\$62,195
Principal balance of loans serviced	\$ 41,798	\$7,102,485	\$7,144,283

Represents estimated LSR value change resulting primarily from market-driven changes in interest rates and

⁽¹⁾ prepayments. Included in "Net gain on sale of loans and other mortgage banking revenue" in the Consolidated Statements of Income.

The Corporation elected as of January 1, 2017 to account for all loan servicing rights previously accounted for at

⁽²⁾ 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 September 30, 2018 and December 31, 2017.

	Mortgage
As of September 30, 2018	
Prepayment speed	0.0 - 25.74%
Weighted average ("WA") discount rate	10.1 %
WA cost to service/per year	\$ 66
WA ancillary income/per year	\$ 31
WA float range	2.3 %
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 \$4.3 million and \$4.5 million for the three months ended September 30, 2018 and 2017, respectively and \$13.2 million and \$13.6 million for the nine months ended September 30, 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)	September 30, 2018	December 31, 2017
Core deposit intangible assets	\$ 29,981	\$ 34,259
Non-compete intangible assets	—	12
Total other intangible assets	\$ 29,981	\$ 34,271

Core Deposit Intangible Assets

The Corporation recorded core deposit intangible assets associated with each of its acquisitions and its merger with Talmer. 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 6.8 years as of September 30, 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)

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	September 30, 2018	December 31, 2017
Gross original amount	\$ 56,456	\$ 59,143
Accumulated amortization	26,475	24,884
Net carrying amount	\$ 29,981	\$ 34,259

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Amortization expense recognized on core deposit intangible assets was \$1.4 million and \$1.5 million for the three months ended September 30, 2018 and 2017, respectively, and \$4.3 million and \$4.5 million for the nine months ended September 30, 2018 and 2017, respectively.

The estimated future amortization expense on core deposit intangible assets for periods ending after September 30, 2018 is as follows: 2018 — \$1.4 million; 2019 — \$5.4 million; 2020 — \$4.9 million; 2021 — \$4.5 million; 2022 — \$4.2 million; 2023 and thereafter — \$9.6 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. These customer-initiated derivatives are not used for interest rate risk management purposes and primarily consist of interest rate swaps, interest rate caps and floors and foreign exchange contracts. 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 exposure that arises 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 hedge, 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 swap. 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)	September 30, 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	\$ 820,000	\$ 21,067	\$ —	\$ 620,000	\$ 5,899	\$ —
Total risk management purposes	820,000	21,067	—	620,000	5,899	—
Customer-initiated and mortgage banking derivatives:						
Customer-initiated derivatives	1,960,013	21,390	21,703	1,365,119	9,376	10,139
Foreign exchange forwards	934	3	3	—	—	—
Forward contracts related to mortgage loans to be delivered for sale	169,554	760	—	115,996	—	34
Interest rate lock commitments	98,516	1,081	—	71,003	1,222	—
Power Equity CD	37,501	1,260	1,260	38,807	2,184	2,184
Total customer-initiated and mortgage banking derivatives	2,266,518	24,494	22,966	1,590,925	12,782	12,357
Total gross derivatives	\$ 3,086,518	\$ 45,561	\$ 22,966	\$ 2,210,925	\$ 18,681	\$ 12,357

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.

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 \$272 thousand at September 30, 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		Nine Months Ended	
		September 30, 2018	September 30, 2017	September 30, 2018	September 30, 2017
		\$ 1,185	\$ 43	\$ 794	\$ 25

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Forward contracts related to mortgage loans to be delivered for sale	Net gain on sale of loans and other mortgage banking revenue						
Interest rate lock commitments	Net gain on sale of loans and other mortgage banking revenue	(904	)	(198	) (141	) 843	
Foreign exchange forwards	Other noninterest income	—		5		—	5
Customer-initiated derivatives	Other noninterest income	84		(39)	450	(820)
Total gain (loss) recognized in income		\$365		\$(189)		\$1,103	\$53

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Notes to Consolidated Financial Statements (Unaudited)
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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 and nine months ended September 30, 2018 and 2017.

(Dollars in thousands)	Amount of gain (loss) recognized in other comprehensive income	Amount of gain
		(loss) reclassified from other comprehensive income to interest income or expense
Three Months Ended September 30, 2018		
Interest rate swaps designated as cash flow hedges	\$ 4,111	\$ 662
Three Months Ended September 30, 2017		
Interest rate swaps designated as cash flow hedges	751	(575)
Nine Months Ended September 30, 2018		
Interest rate swaps designated as cash flow hedges	\$ 16,176	\$ 1,009
Nine months ended September 30, 2017		
Interest rate swaps designated as cash flow hedges	694	(984)

At September 30, 2018, the Corporation expected \$5.1 million of unrealized gains 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.

(Dollars in thousands)	Gross amounts recognized	Gross amounts offset in the statements of financial condition	Net amounts presented in the statements of financial position	Gross amounts not offset in the statements of financial position		Net Amount
				Financial instruments	Collateral (received)/posted	
September 30, 2018						
Offsetting derivative assets						
Derivative assets ⁽¹⁾	\$ 21,376	\$	— \$ 21,376	\$ —	(26,520)	\$ (5,144)

Offsetting derivative liabilities						
Derivative liabilities ⁽¹⁾	21,648	—	21,648	—	5,150	16,498
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 interest rate swaps, forward contracts, interest rate lock commitments and power equity CDs as these instruments are not subject to master netting or similar arrangements.

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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.

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 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 September 30, 2018 and 2017, respectively, and \$3.1 million and \$2.3 million during the nine months ended September 30, 2018 and 2017, respectively. The Corporation's remaining investment in qualified affordable housing projects accounted for under the proportional amortization method totaled \$52.2 million at September 30, 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 \$11.0 million and \$17.3 million at September 30, 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 \$42.3 million and \$48.1 million at September 30, 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 September 30, 2018 federal historic tax credits resulted in an income tax benefit of \$3.2 million, partially offset by impairment expense of \$3.2 million, representing \$2.5 million net of tax, recorded in "other noninterest expense." During the nine months ended September 30, 2018 federal historic tax credits resulted in an income tax benefit of \$6.6 million, partially offset by impairment expense of \$6.5 million, representing \$5.1 million net of tax, recorded in "other noninterest expense." During both the three and nine months ended September 30, 2017, an income tax benefit of \$2.3 million, partially offset by impairment expense of \$3.1 million, representing \$2.0 million net of tax, recorded in "other noninterest expense" was recognized as a result of a federal historic tax credit placed into service.

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.

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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 September 30, 2018 and December 31, 2017, the Corporation had \$126.1 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 September 30, 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 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 September 30, 2018 and December 31, 2017, the Corporation had \$3.10 billion and \$3.03 billion, respectively, of commitments to extend credit. The Corporation had undisbursed loan commitments of \$600.7 million and \$571.0 million at September 30, 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 \$1.7 million and \$1.2 million at September 30, 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 \$14.4 million and \$13.3 million at September 30, 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 \$14.2 million and \$12.8 million at September 30, 2018 and December 31, 2017, respectively. In the event of nonperformance, the Corporation has rights to the underlying collateral securing the loans. At September 30, 2018 and December 31, 2017, the Corporation had recorded a liability of \$0.1 million and \$0.2 million, respectively, 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 September 30, 2018 and December 31, 2017, the liability recorded in connection with these representations and warranties totaled \$4.3 million and \$5.3 million, respectively.

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

(Dollars in thousands)	Three Months		Nine Months	
	Ended		Ended	
	September 30,		September 30,	
	2018	2017	2018	2017
Reserve balance at beginning of period	\$4,860	\$5,469	\$5,349	\$6,459
Reserve reduction	(580)	(71)	(1,067)	(1,061)
Charge-offs	(7)	(9)	(9)	(9)
Ending reserve balance	\$4,273	\$5,389	\$4,273	\$5,389

(Dollars in thousands)	September	December
	30, 2018	31, 2017
Reserve balance		
Liability for specific claims	\$ 403	\$ 531
General allowance	3,870	4,818
Total reserve balance	\$ 4,273	\$ 5,349

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)	September 30, 2018		December 31, 2017	
	Amount	Weighted Average Rate ⁽¹⁾	Amount	Weighted Average Rate ⁽¹⁾
Short-term borrowings:				
FHLB advances: 2.14% - 2.27% fixed-rate notes	\$1,670,000	2.21 %	\$2,000,000	1.39 %
Long-term borrowings:				
FHLB advances: 1.00% - 2.72% fixed-rate notes due 2018 to 2025 ⁽²⁾	415,118	2.00	337,204	1.26
Line-of-credit: floating-rate based on one-month LIBOR plus 1.75%	—	—	19,963	3.10
Subordinated debt obligations: floating-rate based on three-month LIBOR plus 1.45% - 2.85% due 2034 to 2035 ⁽³⁾	11,535	4.55	11,425	3.69
Subordinated debt obligations: floating-rate based on three-month LIBOR plus 3.25% due in 2032 ⁽⁴⁾	4,318	5.59	4,290	4.59
Total long-term borrowings	430,971	2.10	372,882	1.47
Total borrowings	\$2,100,971	2.19 %	\$2,372,882	1.40 %
Other short-term liabilities:				
Collateralized customer deposits	\$377,471	0.71 %	\$415,236	0.44 %

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

The September 30, 2018 balances include advances payable of \$415.0 million and purchase accounting premiums

⁽²⁾ of \$0.1 million. The December 31, 2017 balance includes advances payable of \$337.0 million and purchase accounting premiums of \$0.2 million.

⁽³⁾ The September 30, 2018 balance includes advances payable of \$15.0 million and purchase accounting discounts of \$3.5 million. The December 31, 2017 balance includes advances payable of \$15.0 million and purchase accounting

discounts of \$3.6 million.

The September 30, 2018 balance includes advances payable of \$5.0 million and purchase accounting discounts of (4) \$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 \$7.62 billion as of September 30, 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

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FHLB stock owned by the Corporation, was \$547.9 million at September 30, 2018. Effective January 1, 2018, the Corporation adopted ASU 2016-01. As a result, the Corporation will continue to report FHLB and Federal Reserve Bank ("FRB") stock at cost.

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.

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 transfers, 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.

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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 September 30, 2018	Nine Months Ended September 30, 2018
Noninterest income		
Service charges and fees on deposit accounts	\$ 4,820	\$ 13,744
Wealth management revenue	811	3,868
Other charges and fees for customer services	2,522	7,392
Noninterest income from contracts with customers within the scope of ASC 606	8,153	25,004
Noninterest income within the scope of other GAAP topics	29,764	91,485
Total noninterest income	\$ 37,917	\$ 116,489
Noninterest expense		
Other	\$ (50)	\$ (734)

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 September 30, 2018 and December 31, 2017, the Corporation did not have a material amount of contract balances.

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 September 30, 2018 and 2017, share-based compensation expense related to share-based awards totaled \$1.9 million and \$7.6 million, respectively. During the nine months ended September 30, 2018 and 2017, share-based compensation expense related to share-based awards totaled \$6.0 million and \$14.6 million, respectively. The excess tax benefit realized from share-based compensation transactions during the three months ended September 30, 2018 and 2017 was a benefit of \$98 thousand and an expense of \$332 thousand, respectively, and during the nine months ended September 30, 2018 and 2017 was a benefit of \$1.9 million and \$6.1 million, respectively.

During the nine months ended September 30, 2018, the Corporation granted 315,072 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 September 30, 2018, there were 1,307,256 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 on August 31, 2016 were fully vested prior to assumption.

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A summary of activity for the Corporation's stock options as of and for the nine months ended September 30, 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	—	—	—	(295,419)	23.97
Vested	(78,533)	37.16	6.94	—	—
Forfeited/expired	(14,926)	37.51	7.03	(14,928)	37.51
Outstanding at September 30, 2018	237,411	\$ 38.27	\$ 7.14	800,571	\$ 38.27
Exercisable/vested at September 30, 2018				563,160	\$ 28.61

The weighted-average remaining contractual terms were 6.1 years for all outstanding stock options and 5.4 years for exercisable stock options at September 30, 2018. The intrinsic value of all outstanding in-the-money stock options and exercisable in-the-money stock options was \$17.6 million and \$14.0 million, respectively, at September 30, 2018. The aggregate intrinsic values of outstanding and exercisable options at September 30, 2018 were calculated based on the closing market price of the Corporation's common stock on September 30, 2018 of \$53.40 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 September 30, 2017 was \$27.7 million.

Total cash received from options exercises during both the nine months ended September 30, 2018 and 2017 was \$2.6 million, respectively.

At September 30, 2018, unrecognized compensation expense related to stock options totaled \$1.4 million and is expected to be recognized over a remaining weighted average period of 2.8 years.

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.

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A summary of the activity for RSUs as of and for the nine months ended September 30, 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	315,072	54.41
Converted into shares of common stock	(70,459)	28.96
Forfeited/expired	(15,390)	47.43
Outstanding at September 30, 2018	610,163	\$ 49.33

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At September 30, 2018, unrecognized compensation expense related to RSUs totaled \$18.5 million and is expected to be recognized over a remaining weighted average period of 3.2 years.

Restricted Stock Awards

The Corporation assumed restricted stock awards in the merger with Talmer 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 a restricted stock award 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:

	Number of Awards	Weighted-average acquisition-date fair value
Nonvested restricted stock awards		
Nonvested at January 1, 2018	83,228	\$ 46.23
Vested	(41,784)	46.23
Forfeited	(592)	46.23
Nonvested at September 30, 2018	40,852	\$ 46.23

At September 30, 2018, unrecognized compensation expense related to nonvested restricted stock awards totaled \$0.8 million and is expected to be recognized over a remaining weighted average period of 0.4 years.

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 September 30, 2018. The Pension Plan is fully funded as of September 30, 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

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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 September 30, 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.

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		Nine Months Ended	
	September 30, 2018	September 30, 2017	September 30, 2018	September 30, 2017
Defined Benefit Pension Plans				
Service cost ⁽¹⁾	\$—	\$233	\$—	\$700
Interest cost	1,092	1,302	3,276	3,906
Expected return on plan assets	(2,220)	(2,216)	(6,659)	(6,650)
Amortization of unrecognized net loss	178	578	533	1,734
Settlement	—	322	—	322
Net periodic benefit cost (income) ⁽²⁾	\$(950)	\$219	\$(2,850)	\$12
Postretirement Benefit Plan				
Service cost ⁽¹⁾	\$1	\$1	\$2	\$4
Interest cost	20	24	61	70
Amortization of unrecognized net gain	(36)	(41)	(107)	(121)
Net periodic benefit cost (income) ⁽²⁾	\$(15)	\$(16)	\$(44)	\$(47)

- (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.

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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 \$1.5 million and \$6.3 million for the three and nine months ended September 30, 2018, respectively, compared to \$2.5 million and \$7.5 million for the three and nine months ended September 30, 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 September 30, 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 Chemical 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 Chemical 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 September 30, 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 upon the perceived risk of various asset categories and certain off-balance sheet instruments. Risk-weighted assets for the Corporation and Chemical Bank totaled \$15.30 billion and \$15.26 billion at September 30, 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 September 30, 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 those calculations that management believes have changed the institutions' category.

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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
September 30, 2018								
Total Capital to Risk-Weighted Assets								
Corporation	\$1,792,952	11.7%	\$1,224,203	8.0%	\$1,511,126	9.9%	N/A	N/A
Chemical Bank	1,766,477	11.6	1,221,170	8.0	1,507,382	9.9	\$1,526,463	10.0%
Tier 1 Capital to Risk-Weighted Assets								
Corporation	1,665,786	10.9	918,153	6.0	1,208,901	7.9	N/A	N/A
Chemical Bank	1,655,164	10.8	915,878	6.0	1,202,089	7.9	1,221,170	8.0
Common Equity Tier 1 Capital to Risk-Weighted Assets								
Corporation	1,665,786	10.9	688,614	4.5	975,537	6.4	N/A	N/A
Chemical Bank	1,655,164	10.8	686,908	4.5	973,120	6.4	992,201	6.5
Leverage Ratio								
Corporation	1,665,786	8.6	771,041	4.0	771,041	4.0	N/A	N/A
Chemical Bank	1,655,164	8.6	769,726	4.0	769,726	4.0	962,157	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	845,509	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

On October 23, 2018, the Corporation declared a cash dividend on its common stock of \$0.34 per share. The dividend will be paid on December 21, 2018 to shareholders of record as of December 7, 2018.

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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:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
(In thousands, except per share data)				
Net income	\$70,397	\$40,459	\$210,981	\$140,077
Net income allocated to participating securities	40	129	144	566
Net income allocated to common shareholders ⁽¹⁾	\$70,357	\$40,330	\$210,837	\$139,511
Weighted average common shares - issued	71,426	71,139	71,365	71,077
Average unvested restricted share awards	(41)	(228)	(49)	(290)
Weighted average common shares outstanding - basic	71,385	70,911	71,316	70,787
Effect of dilutive securities				
Weighted average common stock equivalents	702	594	691	667
Weighted average common shares outstanding - diluted	72,087	71,505	72,007	71,454
EPS available to common shareholders				
Basic earnings per common share	\$0.99	\$0.57	\$2.96	\$1.98
Diluted earnings per common share	\$0.98	\$0.56	\$2.93	\$1.95

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 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 \$56.59 per share and \$47.68 per share for the three months ended September 30, 2018 and 2017, respectively and \$56.43 and \$49.07 for the nine months ended September 30, 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 58,882 and 63,014 for the three and nine months ended September 30, 2018, respectively, and 125,280 and 102,245 for the three and nine months ended September 30, 2017, respectively.

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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 and nine months ended September 30, 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 September 30, 2018				
Beginning balance	\$ (41,685	) \$(19,584)	\$ 13,918	\$(47,351)
Other comprehensive (loss) income before reclassifications	(13,141	) —	3,248	(9,893)
Amounts reclassified from accumulated other comprehensive income (loss)	—	112	(523)	(411)
Net current period other comprehensive (loss) income	(13,141	) 112	2,725	(10,304)
Ending balance	\$ (54,826	) \$(19,472)	\$ 16,643	\$(57,655)
For the three months ended September 30, 2017				
Beginning balance	\$ (8,877	) \$(25,195)	\$ (57)	\$(34,129)
Other comprehensive income before reclassifications	895	7,305	520	8,720
Amounts reclassified from accumulated other comprehensive (loss) income	(1	) 349	231	579
Net current period other comprehensive income	894	7,654	751	9,299
Ending balance	\$ (7,983	) \$(17,541)	\$ 694	\$(24,830)
For the nine months ended September 30, 2018				
Beginning balance	\$ (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 (loss) income before reclassifications	(44,132	) —	12,779	(31,353)
Amounts reclassified from accumulated other comprehensive (loss) income	(2	) 336	(797)	(463)
Net current period other comprehensive (loss) income	(44,134	) 336	11,982	(31,816)
Ending balance	\$ (54,826	) \$(19,472)	\$ 16,643	\$(57,655)
For the nine months ended September 30, 2017				
Beginning balance	\$ (14,142	) \$(25,894)	\$ —	\$(40,036)
Other comprehensive income before reclassifications	6,268	7,305	54	13,627
Amounts reclassified from accumulated other comprehensive (loss) income	(109	) 1,048	640	1,579
Net current period other comprehensive income	6,159	8,353	694	15,206
Ending balance	\$ (7,983	) \$(17,541)	\$ 694	\$(24,830)

⁽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.

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The following table summarizes the amounts reclassified out of each component of accumulated other comprehensive income (loss) for the three and nine months ended September 30, 2018, and 2017:

(Dollars in thousands)	Amounts Reclassified from Accumulated Other Comprehensive Income (Loss)				Affected Line Item in the Income Statement
	Three Months Ended September 30, 2018		Nine Months Ended September 30, 2017		
Gains on available-for-sale securities	\$—	\$1	\$3	\$168	Net gain on sale of investment securities (noninterest income)
	—	—	(1	) (59	) Income tax expense
	\$—	\$1	\$2	\$109	Net Income
Amortization of defined benefit pension plan items	\$142	\$537	\$426	\$1,613	Salaries, wages and employee benefits (operating expenses)
	(30	) (188	) (90	) (565	) Income tax benefit
	\$112	\$349	336	\$1,048	Net Loss
Gains and losses on cash flow hedges	\$(662)	\$575	\$(1,009)	\$984	Interest on short-term borrowings (interest expense)
	139	(344	) 212	(344	) Income tax expense (benefit)
	\$(523)	\$231	\$(797	) \$640	Net (Income)/Loss

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 3 of this report.

Business Overview

Chemical Financial Corporation is a financial holding company headquartered in Detroit, Michigan, that was incorporated in the State of Michigan in August 1973. We relocated our headquarters from Midland, Michigan to Detroit, Michigan effective July 25, 2018. 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. We changed the name of Chemical Bank and Trust Company to Chemical Bank on December 31, 2005. At September 30, 2018, we had consolidated total assets of \$20.91 billion, total loans of \$14.80 billion, total deposits of \$15.44 billion and total shareholders' equity of \$2.79 billion, respectively.

Since our acquisition of Chemical Bank and Trust Company, we have acquired 25 community banks and 36 other branch bank offices through September 30, 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 six regional banking units, organized by geography, as of September 30, 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 discuss 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 September 30, 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 nine months ended September 30, 2018 and the year ended December 31, 2017. See the following section for a description of pronouncements that have been released but we have not yet adopted and the expected impact of such pronouncements on our financial statements.

Pending Accounting Pronouncements

Standard	Description	Required Adoption Date	Expected impact on the financial statements
ASU No. 2016-02 - Leases (Topic 842)	In February 2016, the FASB established Topic 842, Leases, by issuing Accounting Standards Update (ASU), No. 2016-02, which	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. While we continue to assess all of the effects of adoption, we currently believe the most significant effects relate to (1) the recognition of new ROU assets and lease liabilities on our balance sheet for our land and building operating leases and (2) providing significant new disclosures about our leasing activities. We do not expect a significant change in our leasing activities between now and adoption.
ASU No. 2018-01 - Leases (Topic 842): Land Easement Practical Expedient for Transition to Topic 842	requires lessees to recognize leases on-balance sheet, lessors to classify leases as sales-type, direct financing, or operating, and disclose key information about leasing arrangements. Topic 842 was subsequently amended by ASU No. 2018-01, Land Easement Practical Expedient for Transition to Topic	We expect to adopt the guidance using the election not to recast comparative periods presented and record a cumulative-effect adjustment to retained earnings on the date of adoption.	
ASU No. 2018-10 - Codification Improvements to Topic 842, Leases Targeted	ASU No. 2018-10, Codification Improvements to Topic 842, Leases; and ASU No. 2018-11, Targeted		
ASU No. 2018-11 - Leases (Topic 842) Targeted Improvements	This guidance provides that lessees will be required to recognize the following for all operating leases (with the exception of short-term leases): 1) a lease liability, which is the present value of a lessee's obligation to make lease payments, and 2) a right-of-use (ROU) 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. Lessor accounting under the new guidance remains largely unchanged as it is substantially equivalent to existing guidance for sales-type leases, direct financing leases and operating leases.		We are currently implementing a third-party vendor solution to assist us in the application of ASU 2016-02 and believe substantially all of our leases will continue to be classified as operating leases under the new standard.
	Upon adoption, a modified retrospective transition approach is required, applying the new standard to all leases existing at the date of		The new standard provides a number of optional practical expedients in transition including the 'package of practical expedients' which permits us not to reassess under the new standard our prior conclusions about lease identification, lease classification, and initial direct costs, an expedient for the election of the use-of-hindsight or land easements, an expedient for the entity's ongoing accounting such as the short-term lease recognition and measurement exemption as well as the non-separation of lease and non-lease components practical expedient. We

initial application.

are still evaluating the election of these expedients.

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Standard	Description	Required Adoption Date	Expected impact on the financial statements
ASU No. 2016-13 - Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments	<p>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 relevant information about past events, current conditions, and reasonable forecasts. The standard also eliminates the probable recognition threshold for credit losses of financial assets measured at amortized cost. Additionally, an allowance will be recognized for purchased credit-deteriorated assets through a gross-up approach 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) an allowance roll-forward for available-for-sale securities and an aging analysis for securities past due.</p>	January 1, 2020, early adoption permitted as of January 1, 2019	<p>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. The adjustment to our credit loss allowance upon adoption will be impacted by each portfolio's composition and credit quality at the adoption date, as well as economic conditions and forecasts at that time. We have selected a software program and identified and gathered the required data. In the fourth quarter of 2018 and into the first quarter of 2019, we will develop and refine multiple scenarios, identify portfolio segmentation and run parallel analysis with our current credit loss model.</p>
ASU No. 2017-04, Intangible - Goodwill and Other (Topic 350)	<p>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 other goodwill impairment guidance largely remains unchanged.</p>	January 1, 2020, early adoption permitted	<p>Adoption is not expected to have a material impact on our consolidated financial condition or results of operations.</p>
ASU No. 2017-06, Plan Accounting: Defined Benefit Pension Plans (Topic 960)	<p>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</p>	January 1, 2019, early adoption permitted	<p>Adoption is not expected to have a material impact on our consolidated financial condition or results of operations.</p>

interest in the master trust is removed and replaced by the required disclosure of the dollar amount of interest in each investment type.

ASU No. 2018-07, Compensation-Stock Compensation (Topic 718)	This update expands the scope of stock compensation requirements to include share-based payment transaction for acquiring goods and services from nonemployees. The amendment requires that nonemployee share-based payment awards meet the accounting requirements of employee share-based payment awards.	January 1, 2019, early adoption permitted	Adoption is not expected to have a material impact on our consolidated financial condition or results of operations.
ASU No. 2018-08, Clarifying the Scope and the Accounting Guidance for Contributions Received and Contributions Made	The update clarifies the scope and the accounting guidance for contributions received and contributions made. The guidance clarifies the criteria on determining whether a contribution is conditional or unconditional.	January 1, 2019, early adoption permitted	Adoption is not expected to have a material impact on our consolidated financial condition or results of operations.
ASU No. 2018-09, Codification Improvements	This update clarifies and makes minor improvements to the current codification. The amendments are made to a number of subtopics in order to allow for clearer understanding of the codification.	January 1, 2019, early adoption permitted	Adoption is not expected to have a material impact on our consolidated financial condition or results of operations.

Standard	Description	Required Adoption Date	Expected impact on the financial statements
ASU 2018-13, Fair Value Measurement (Topic 820): Disclose Framework-Changes to the Disclosure Requirements for Fair Value Measurement	<p>The amendments in this update improves the effectiveness of fair value measurement disclosures and modifies the disclosure requirements on fair value measurements in Topic 820, Fair Value Measurement based on the concepts in the Concept Statement, Conceptual Framework for Financial Reporting - Chapter 8: Notes to Financial Statements, including considerations of costs and benefits.</p> <p>The additional disclosure requirements include disclosing the change in unrealized gains(losses) for recurring Level 3 fair value measurements held at the end of the reporting period and the range and weighted average of significant unobservable inputs used to develop Level 3 fair value measurements or other quantitative information. The update also removes the disclosure requirements for: the amount of and reasons for transfers between Level 1 and Level 2 hierarchies, the policy for timing of transfers between levels, and the valuation processes for Level 3 fair value measurements.</p>	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 2018-14, Compensation-Retirement Benefits-Defined Benefit Plans-General (Subtopic 715-20): Disclosure Framework-Changes to the Disclosure Requirements for Defined Benefit Plans	The amendments in this update remove disclosures that no longer are considered cost-beneficial, clarify the specific requirements of disclosures, and add disclosure requirements identified as relevant based on the concepts in the Concepts Statement, Conceptual Framework for Financial Reporting-Chapter 8: Notes to Financial Statements.	January 1, 2021, early adoption permitted	Adoption is not expected to have a material impact on our consolidated financial condition or results of operations.

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Chemical Financial Corporation
Selected Financial Information
(Unaudited)

(Dollars in thousands, except per share data)	Three Months Ended		Nine Months Ended			
	September 30, 2018	June 30, 2018	September 30, 2017	September 30, 2018	September 30, 2017	
Summary of Operations						
Interest income	\$ 198,377	\$ 189,582	\$ 164,944	\$ 565,893	\$ 462,973	
Interest expense	38,896	32,045	21,316	97,012	51,300	
Net interest income	159,481	157,537	143,628	468,881	411,673	
Provision for loan losses	6,028	9,572	5,499	21,856	15,778	
Net interest income after provision for loan losses	153,453	147,965	138,129	447,025	395,895	
Noninterest income	37,917	38,018	32,122	116,489	111,700	
Operating expenses, core (non-GAAP) ⁽¹⁾⁽²⁾	106,499	102,845	95,241	309,320	293,042	
Merger and restructuring expenses	—	—	21,203	—	25,835	
Impairment of income tax credits	3,162	1,716	3,095	6,512	3,095	
Income before income taxes	81,709	81,422	50,712	247,682	185,623	
Income tax expense	11,312	12,434	10,253	36,701	45,546	
Net income	\$ 70,397	\$ 68,988	\$ 40,459	\$ 210,981	\$ 140,077	
Significant items, net of tax (non-GAAP) ⁽¹⁾⁽³⁾	—	—	13,782	—	16,793	
Net income, excluding significant items (non-GAAP) ⁽¹⁾⁽³⁾	\$ 70,397	\$ 68,988	\$ 54,241	\$ 210,981	\$ 156,870	
Per Common Share Data						
Net income:						
Basic	\$ 0.99	\$ 0.97	\$ 0.57	\$ 2.96	\$ 1.98	
Diluted	0.98	0.96	0.56	2.93	1.95	
Diluted, excluding significant items (non-GAAP) ⁽¹⁾⁽³⁾	0.98	0.96	0.76	2.93	2.19	
Cash dividends declared	0.34	0.28	0.28	0.90	0.82	
Book value at end of period	39.04	38.52	37.57	39.04	37.57	
Tangible book value per share at end of period (non-GAAP) ⁽¹⁾	22.87	22.33	21.36	22.87	21.36	
Market value at end of period	53.40	55.67	52.26	53.40	52.26	
Key Ratios (annualized where applicable)						
Net interest margin	3.42	% 3.54	% 3.40	% 3.49	% 3.40	%
Net interest margin (fully taxable equivalent) (non-GAAP) ⁽¹⁾⁽⁴⁾	3.48	% 3.59	% 3.48	% 3.54	% 3.48	%
Efficiency ratio (GAAP)	55.6	% 53.5	% 68.0	% 54.0	% 61.5	%
Efficiency ratio-adjusted (non-GAAP) ⁽¹⁾	52.8	% 51.2	% 51.2	% 51.9	% 53.5	%
Return on average assets	1.37	% 1.39	% 0.86	% 1.41	% 1.03	%
Return on average assets, excluding significant items (non-GAAP) ⁽¹⁾⁽³⁾	1.37	% 1.39	% 1.15	% 1.41	% 1.15	%
Return on average shareholders' equity	10.2	% 10.2	% 6.1	% 10.3	% 7.2	%
Return on average tangible shareholders' equity (non-GAAP) ⁽¹⁾	17.5	% 17.8	% 10.9	% 18.0	% 12.8	%
Return on average tangible shareholders' equity, excluding significant items (non-GAAP) ⁽¹⁾⁽³⁾	17.5	% 17.8	% 14.6	% 18.0	% 14.4	%
	13.5	% 13.6	% 14.0	% 13.6	% 14.3	%

Average shareholders' equity as a percent of average assets

Capital ratios (period end):

Tangible shareholders' equity as a percent of tangible assets (non-GAAP) ⁽¹⁾	8.3	% 8.3	% 8.3	% 8.3	% 8.3	%
Total risk-based capital ratio	11.7	% 11.4	% 11.2	% 11.7	% 11.2	%

Denotes a non-GAAP Financial Measure. Please refer to section entitled "Non-GAAP Financial Measures"

(1) 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 and restructuring expenses and impairment of income tax credits.

(3) "Significant items" are defined to be merger and restructuring expenses.

(4) Presented on a tax equivalent basis using a 21% tax rate for each 2018 period presented and a 35% tax rate for each 2017 period 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 and 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 and restructuring expenses, impairment of income tax credits and amortization of intangibles); the adjusted efficiency ratio and the adjusted total operating expenses as a percentage of total average assets (which both exclude merger and 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 and restructuring expenses and gains and losses on sale of investment securities) 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.

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(Dollars in thousands, except per share data)	Three Months Ended			Nine Months Ended		
	Sep 30, 2018	June 30, 2018	Sep 30, 2017	Sep 30, 2018	Sep 30, 2017	
Reconciliation of Non-GAAP Operating Results						
Net Income						
Net income, as reported	\$70,397	\$68,988	\$40,459	\$210,981	\$140,077	
Merger and restructuring expenses ("significant items")	—	—	21,203	—	25,835	
Income tax benefit ⁽¹⁾	—	—	(7,421)	—	(9,042)	
Significant items, net of tax	—	—	13,782	—	16,793	
Net income, excluding significant items	\$70,397	\$68,988	\$54,241	\$210,981	\$156,870	
Diluted Earnings Per Share						
Diluted earnings per share, as reported	\$0.98	\$0.96	\$0.56	\$2.93	\$1.95	
Effect of significant items, net of tax	—	—	0.20	—	0.24	
Diluted earnings per share, excluding significant items	\$0.98	\$0.96	\$0.76	\$2.93	\$2.19	
Return on Average Assets						
Return on average assets, as reported	1.37	% 1.39	% 0.86	% 1.41	% 1.03	%
Effect of significant items, net of tax	—	—	0.29	—	0.12	
Return on average assets, excluding significant items	1.37	% 1.39	% 1.15	% 1.41	% 1.15	%
Return on Average Shareholders' Equity						
Return on average shareholders' equity, as reported	10.2	% 10.2	% 6.1	% 10.3	% 7.2	%
Effect of significant items, net of tax	—	—	2.1	—	0.8	
Return on average shareholders' equity, excluding significant items	10.2	% 10.2	% 8.2	% 10.3	% 8.0	%
Return on Average Tangible Shareholders' Equity						
Average shareholders' equity	\$2,769,101	\$2,707,346	\$2,643,233	\$2,720,820	\$2,611,630	
Average goodwill, CDI and noncompete agreements, net of tax	1,155,679	1,156,877	1,153,394	1,156,870	1,154,243	
Average tangible shareholders' equity	\$1,613,422	\$1,550,469	\$1,489,839	\$1,563,950	\$1,457,387	
Return on average tangible shareholders' equity	17.5	% 17.8	% 10.9	% 18.0	% 12.8	%
Effect of significant items, net of tax	—	—	3.7	—	1.6	
Return on average tangible shareholders' equity, excluding significant items	17.5	% 17.8	% 14.6	% 18.0	% 14.4	%
Efficiency Ratio						
Net interest income	\$159,481	\$157,537	\$143,628	\$468,881	\$411,673	
Noninterest income	37,917	38,018	32,122	116,489	111,700	
Total revenue - GAAP	197,398	195,555	175,750	585,370	523,373	
Net interest income FTE adjustment	2,386	2,331	3,260	6,944	9,498	
Loan servicing rights change in fair value (gains) losses	(932)	30	4,041	(4,654)	6,362	
Gains from sale of investment securities	—	(3)	(1)	(3)	(168)	
Total revenue - Non-GAAP	\$198,852	\$197,913	\$183,050	\$587,657	\$539,065	
Operating expenses - GAAP	\$109,661	\$104,561	\$119,539	\$315,832	\$321,972	
Merger and restructuring expenses	—	—	(21,203)	—	(25,835)	
Impairment of income tax credits	(3,162)	(1,716)	(3,095)	(6,512)	(3,095)	
Operating expense, core - Non-GAAP	106,499	102,845	95,241	309,320	293,042	
Amortization of intangibles	(1,426)	(1,425)	(1,526)	(4,290)	(4,564)	
Operating expenses, efficiency ratio - Non-GAAP	\$105,073	\$101,420	\$93,715	\$305,030	\$288,478	
Efficiency ratio - GAAP	55.6	% 53.5	% 68.0	% 54.0	% 61.5	%
Efficiency ratio - adjusted Non-GAAP	52.8	% 51.2	% 51.2	% 51.9	% 53.5	%

(1) Assumes merger and restructuring expenses are deductible at an income tax rate of 35% for each period during 2017.

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(Dollars in thousands, except per share data)	Three Months Ended			Nine Months Ended		
	Sep 30, 2018	June 30, 2018	Sep 30, 2017	Sep 30, 2018	Sep 30, 2017	
Total operating expenses as a percentage of total average assets (annualized)						
Average assets	\$20,501,223	\$19,850,993	\$18,858,148	\$19,946,039	\$18,204,024	
Operating expenses - GAAP	\$109,661	\$104,561	\$119,539	\$315,832	\$321,972	
Merger and restructuring expenses	—	—	(21,203)	—	(25,835)	
Impairment of income tax credits	(3,162)	(1,716)	(3,095)	(6,512)	(3,095)	
Operating expense, core - Non-GAAP	106,499	102,845	95,241	309,320	293,042	
Total operating expenses as a percentage of total average assets (annualized)	2.1	% 2.1	% 2.5	% 2.1	% 2.4	%
Total operating expenses as a percentage of total average assets - adjusted non-GAAP (annualized)	2.1	% 2.1	% 2.0	% 2.1	% 2.1	%
(Dollars in thousands, except per share data)	September 30, 2018	June 30, 2018	December 31, 2017	September 30, 2017		
Tangible Book Value						
Shareholders' equity, as reported	\$2,788,924	\$2,750,999	\$2,668,749	\$2,673,089		
Goodwill, CDI and noncompete agreements, net of tax	(1,155,083)	(1,156,307)	(1,158,738)	(1,153,576)		
Tangible shareholders' equity	\$1,633,841	\$1,594,692	\$1,510,011	\$1,519,513		
Common shares outstanding	71,438	71,418	71,207	71,152		
Book value per share (shareholders' equity, as reported, divided by common shares outstanding)	\$39.04	\$38.52	\$37.48	\$37.57		
Tangible book value per share (tangible shareholders' equity divided by common shares outstanding)	\$22.87	\$22.33	\$21.21	\$21.36		
Tangible Shareholders' Equity to Tangible Assets						
Total assets, as reported	\$20,905,489	\$20,282,603	\$19,280,873	\$19,354,308		
Goodwill, CDI and noncompete agreements, net of tax	(1,155,083)	(1,156,307)	(1,158,738)	(1,153,576)		
Tangible assets	\$19,750,406	\$19,126,296	\$18,122,135	\$18,200,732		
Shareholders' equity to total assets	13.3	% 13.6	% 13.8	% 13.8	%	
Tangible shareholders' equity to tangible assets	8.3	% 8.3	% 8.3	% 8.3	%	

Overview

Total assets were \$20.91 billion at September 30, 2018, an increase of \$1.63 billion, or 8.4%, from total assets of \$19.28 billion at December 31, 2017. The increase in total assets during the nine months ended September 30, 2018 was primarily attributable to additions to our investment securities portfolio and net loan growth.

Interest-earning assets were \$18.81 billion at September 30, 2018, an increase of \$1.55 billion, or 9.0%, from interest-earning assets of \$17.26 billion at December 31, 2017. The increase in interest-earnings assets during the nine months ended September 30, 2018 was primarily attributable to a \$704.6 million increase in our investment securities portfolio and a \$641.0 million increase in total loans.

Average assets were \$20.50 billion during the three months ended September 30, 2018, an increase of \$1.64 billion, or 8.7%, compared to average assets of \$18.86 billion during the three months ended September 30, 2017. Average assets were \$19.95 billion during the nine months ended September 30, 2018, an increase of \$1.75 billion, or 9.6%, from average assets of \$18.20 billion during the nine months ended September 30, 2017. The increase in average assets during both the three months ended September 30, 2018, compared to the three months ended September 30, 2017, and the nine months ended September 30, 2018, compared to the nine months ended September 30, 2017, was

primarily attributable to loan growth and an increase in our investment securities portfolio which is reflective of our long-term plan to increase our investment securities portfolio as a percentage of total assets.

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 September 30, 2018 and December 31, 2017:

Maturity as of September 30, 2018⁽¹⁾

(Dollars in thousands)	Within One Year		After One but Within Five Years		After Five but Within Ten Years		After Ten Years		Total Carrying Value ⁽²⁾	Total Fair Value	
	Amount	Yield ⁽³⁾	Amount	Yield ⁽³⁾	Amount	Yield ⁽³⁾	Amount	Yield ⁽³⁾	Amount	Yield ⁽³⁾	
Carried at fair value:											
Government and government-sponsored agencies	\$31,136	2.94%	\$102,527	2.86%	\$77,152	2.83%	\$43,638	2.90%	\$254,453	2.87%	\$254,453
State and political subdivisions	19,345	1.99	44,994	1.76	138,338	2.23	289,232	3.65	491,909	3.01	491,909
Residential mortgage-backed securities	21,085	2.78	69,787	2.84	49,507	2.90	36,642	3.05	177,021	2.89	177,021
Collateralized mortgage obligations	192,869	2.97	614,836	3.03	425,774	3.09	244,339	2.97	1,477,818	3.03	1,477,818
Corporate bonds	20,353	1.85	45,697	2.71	221,355	3.79	—	—	287,405	3.48	287,405
Trust preferred securities	—	—	—	—	46,781	4.08	1,493	2.06	48,274	4.02	48,274
Total debt securities available-for-sale	\$284,788	2.81%	\$877,841	2.91%	\$958,907	3.15%	\$615,344	3.29%	\$2,736,880	3.07%	\$2,736,880
Held-to-Maturity:											
State and political subdivisions	\$60,438	3.35%	\$219,410	3.17%	\$156,757	3.33%	\$171,262	3.07%	\$607,867	3.20%	\$597,867
Trust preferred securities	—	—	—	—	—	—	500	5.25	500	5.25	450
Total investment securities held-to-maturity	\$60,438	3.35%	\$219,410	3.17%	\$156,757	3.33%	\$171,762	3.08%	\$608,367	3.20%	\$598,367
Total investment securities	\$345,226	2.90%	\$1,097,251	2.96%	\$1,115,664	3.17%	\$787,106	3.24%	\$3,345,247	3.09%	\$3,335,247

Residential mortgage-backed securities, collateralized mortgage obligations and certain government and

(1) 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.

Yields are weighted by amount and time to contractual maturity, are on a taxable equivalent basis using a 21%

(3) federal income tax rate and are based on carrying value. Yields disclosed are actual yields based on carrying value at September 30, 2018. Approximately 21% of our investment securities at September 30, 2018 were variable-rate financial instruments.

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	Maturity as of December 31, 2017 ⁽¹⁾										
	Within One Year		After One but Within Five Years		After Five but Within Ten Years		After Ten Years		Total Carrying Value ⁽²⁾	Total Fair Value	
(Dollars in thousands)	Amount	Yield ⁽³⁾	Amount	Yield ⁽³⁾	Amount	Yield ⁽³⁾	Amount	Yield ⁽³⁾	Amount	Yield ⁽³⁾	Value
Available-for-Sale:											
Government and 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	\$298,645	2.55%	\$746,082	2.50%	\$611,821	2.92%	\$305,174	3.27%	\$1,961,722	2.76%	\$1,961,722
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	\$89,359	2.33%	\$237,113	3.12%	\$152,299	3.92%	\$198,322	3.64%	\$677,093	3.35%	\$662,906
Total investment securities	\$388,004	2.50%	\$983,195	2.65%	\$764,120	3.12%	\$503,496	3.42%	\$2,638,815	2.92%	\$2,624,628

(1) Residential mortgage-backed securities, collateralized mortgage obligations and certain government and 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 22% of our 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 \$3.35 billion at September 30, 2018, an increase of \$704.6 million, or 26.7%, from investment securities of \$2.64 billion at December 31, 2017, primarily as a result of our long-term plan to increase our investment securities portfolio as a percentage of total assets.

Our investment securities portfolio as of September 30, 2018 had a weighted average life of approximately 5.7 years and an effective duration of approximately 3.1 years.

The following table summarizes the carrying value of investment securities at September 30, 2018 and December 31, 2017:

(Dollars in thousands)	September 30, 2018	December 31, 2017
Carried at Fair Value:		
Government and government-sponsored agencies	\$ 254,453	\$ 202,916
State and political subdivisions	491,909	345,970
Residential mortgage-backed securities	177,021	150,131
Collateralized mortgage obligations	1,477,818	1,033,845
Corporate bonds	287,405	192,794
Trust preferred securities	48,274	36,066
Preferred stock	—	1,824
Total investment securities carried at fair value	2,736,880	1,963,546
Held-to-maturity:		
State and political subdivisions	607,867	676,593
Trust preferred securities	500	500
Total investment securities held-to-maturity	608,367	677,093
Total investment securities	\$ 3,345,247	\$ 2,640,639

At September 30, 2018, our investment securities portfolio consisted of: Government and government-sponsored agency (GSA) debt obligations, comprised primarily of fixed-rate instruments backed by a U.S. government agency (Small Business Administration) or government-sponsored enterprises (Federal Home Loan Banks, Federal Farm Credit Banks and the Student Loan Marketing Corporation), totaling \$254.5 million; state and political subdivisions debt obligations, comprised primarily of general debt obligations of issuers mostly located in the State of Michigan, totaling \$1.10 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 \$177.0 million; collateralized mortgage obligations (CMOs), comprised of approximately 86.9% fixed-rate and 13.1% variable-rate instruments primarily backed by the same U.S. government agency and government-sponsored enterprises as the residential MBSs, totaling \$1.48 billion; corporate bonds, comprised primarily of debt obligations of large U.S. global financial organizations, totaling \$287.4 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 \$48.8 million. Fixed-rate instruments comprised approximately 79.2% of our investment securities portfolio at September 30, 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 \$3.35 billion at September 30, 2018, with gross unrealized losses of \$83.2 million at that date. We believe that the unrealized losses on debt securities at September 30, 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 September 30, 2018 were temporary in nature and, therefore, no impairment loss was recognized in our Consolidated Statements of Income for the nine months ended September 30, 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 September 30, 2018, the gross unrealized losses in our debt securities portfolio of \$83.2 million were comprised as follows: state and political subdivisions securities of \$26.6 million; government and GSA securities, residential MBSs and CMOs, combined, of \$49.5 million; corporate bonds of \$6.9 million; and TRUPs of \$0.2 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 \$1.11 billion and gross unrealized losses of \$26.6 million at September 30, 2018. The majority of our state and political subdivisions securities are from issuers located in the State of Michigan. Approximately 77.5% of the state and political subdivisions securities 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 \$1.00 billion 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 September 30, 2018.

GSA securities, residential MBSs and CMOs, included in the available-for-sale investment securities portfolio, had a combined amortized cost of \$1.96 billion and gross unrealized losses of \$49.5 million at September 30, 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 September 30, 2018.

Corporate bonds included in the available-for-sale investment securities portfolio had an amortized cost of \$293.8 million and gross unrealized losses of \$6.9 million at September 30, 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 in our corporate bonds was temporary in nature at September 30, 2018.

At September 30, 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 a lack of liquidity for issuances of this size. We concluded that the unrealized loss on our TRUP was temporary in nature at September 30, 2018.

At September 30, 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 September 30, 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 September 30, 2018, our loan portfolio was \$14.80 billion and consisted of loans in the commercial loan

portfolio totaling \$9.05 billion, or 61.2% of total loans, and loans in the consumer loan portfolio totaling \$5.74 billion, or 38.8% 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 \$14.80 billion at September 30, 2018, an increase of \$641.0 million, or 4.5%, from total loans of \$14.16 billion at December 31, 2017, and an increase of \$962.9 million, or 7.0%, from total loans of \$13.83 billion at September 30, 2017. We experienced originated loan growth of \$448.9 million during the third quarter of 2018 and \$1.99 billion during the twelve months ended September 30, 2018.

The following table includes the composition of our loan portfolio, by major loan category, as of September 30, 2018 and December 31, 2017.

(Dollars in thousands)	September 30, 2018	December 31, 2017
Commercial loan portfolio:		
Commercial	\$ 3,719,922	\$ 3,385,642
Commercial real estate:		
Owner-occupied	1,897,934	1,813,562
Non-owner occupied	2,739,700	2,606,761
Vacant land	73,987	80,347
Total commercial real estate	4,711,621	4,500,670
Real estate construction and land development	622,147	574,215
Subtotal - commercial loan portfolio	9,053,690	8,460,527
Consumer loan portfolio:		
Residential mortgage	3,391,987	3,252,487
Consumer installment	1,560,265	1,613,008
Home equity	790,310	829,245
Subtotal - consumer loan portfolio	5,742,562	5,694,740
Total loans	\$ 14,796,252	\$ 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 \$9.05 billion at September 30, 2018 included 162 loan relationships of \$10.0 million or greater. These 162 loan relationships totaled \$3.65 billion, which represented 40.4% of the commercial loan portfolio at September 30, 2018 and included 98 loan relationships that had outstanding balances of \$15.0 million or higher, totaling \$2.89 billion, or 31.9% of the commercial loan portfolio, at that date. We had 61 loan relationships that had outstanding balances of \$20.0 million or higher, totaling \$2.25 billion, or 24.8% of the commercial loan portfolio, at September 30, 2018. We had 30 loan relationships at September 30, 2018 with loan balances greater than \$10.0 million and less than \$15.0 million, totaling \$368.4 million, that had unfunded credit commitments totaling \$222.3 million that, if advanced, could result in a loan relationship of \$15.0 million or more.

The following table presents contractual maturities of our \$9.05 billion commercial loan portfolio at September 30, 2018. Commercial loans at fixed interest rates comprised 53.2% of our total commercial loan portfolio at September 30, 2018, compared to 56.8% at December 31, 2017. The percentage of these loans maturing within one year was 20.9% at September 30, 2018, while the percentage of these loans maturing beyond five years remained low at 24.5% at September 30, 2018. At September 30, 2018, loans in the commercial loan portfolio with maturities beyond one year totaled \$7.16 billion, with 58.6% of these loans at fixed interest rates.

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(Dollars in thousands)	September 30, 2018			
	Due In 1 Year or Less	1 to 5 Years	Over 5 Years	Total
Loan maturities:				
Commercial	\$1,133,341	\$2,044,299	\$542,282	\$3,719,922
Commercial real estate:				
Owner-occupied	217,357	1,103,714	576,863	1,897,934
Non-owner occupied	353,941	1,468,797	916,962	2,739,700
Vacant land	23,452	33,913	16,622	73,987
Total commercial real estate	594,750	2,606,424	1,510,447	4,711,621
Real estate construction and land development	161,028	296,946	164,173	622,147
Total	\$1,889,119	\$4,947,669	\$2,216,902	\$9,053,690
Percent of total	20.9	% 54.6	% 24.5	% 100.0 %
Interest sensitivity of above loans:				
Fixed interest rates	\$618,270	\$3,279,529	\$920,205	\$4,818,004
Variable interest rates	1,270,849	1,668,140	1,296,697	4,235,686
Total	\$1,889,119	\$4,947,669	\$2,216,902	\$9,053,690

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 \$3.72 billion at September 30, 2018, an increase of \$334.3 million, or 9.9%, from commercial loans of \$3.39 billion at December 31, 2017. Commercial loans represented 25.1% of our loan portfolio at September 30, 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 \$4.71 billion at

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September 30, 2018, an increase of \$211.0 million, or 4.7%, 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 40.3%, 58.1% and 1.6%, respectively, of our commercial real estate loans outstanding at September 30, 2018. Commercial real estate loans represented 31.8% of our loan portfolio at September 30, 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 \$622.1 million at September 30, 2018, an increase of \$47.9 million, or 8.3%, compared to \$574.2 million at December 31, 2017. Real estate construction and land development loans represented 4.2% of our loan portfolio at September 30, 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 September 30, 2018, \$28.7 million or 4.6%, of our \$622.1 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 and therefore, were individually assessed for impairment. 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. The increase in nonperforming assets during the nine months ended September 30, 2018 was primarily attributable to one real estate construction loan relationship that we downgraded to nonaccrual status during the third quarter of 2018.

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 \$3.39 billion at September 30, 2018, an increase of \$139.5 million, or 4.3%, 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 \$221.1 million at September 30, 2018, compared to \$272.3 million at December 31, 2017. Residential mortgage loans represented 22.9% of our loan portfolio at September 30, 2018, compared to 23.0% of our loan portfolio 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 \$1.56 billion at September 30, 2018, a decrease of \$52.7 million, or 3.3%, from consumer installment loans of \$1.61 billion at December 31, 2017. At September 30, 2018, collateral securing consumer installment loans was comprised approximately as follows: automobiles - 53.6%; recreational vehicles - 21.8%; marine vehicles - 20.5%; other

collateral - 1.9%; and unsecured - 2.2%. Consumer installment loans represented 10.5% of our loan portfolio at September 30, 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 \$790.3 million at September 30, 2018, a decrease of \$38.9 million, or 4.7%, from home equity loans of \$829.2 million at December 31, 2017. Home equity loans represented 5.3% of our loan portfolio at September 30, 2018, compared to 5.9% at December 31, 2017. Home equity lines of credit comprised \$374.6 million, or 47.4%, of our home equity loans at September 30, 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 23 basis points (annualized) of average consumer installment and home equity loans during the nine months ended September 30, 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 4.0%, 4.6% and 3.5%, respectively, at September 30, 2018, compared to 4.7%, 4.7% and 3.4%, respectively, at December 31, 2017. The national average unemployment rate was 3.7% at September 30, 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 \$103.3 million at September 30, 2018, an increase of \$31.4 million, or 43.6%, from \$71.9 million at December 31, 2017. The increase in nonperforming assets during the nine months ended September 30, 2018 was primarily attributable to one real estate construction loan relationship that we downgraded to nonaccrual status. Nonperforming assets represented 0.49% of total assets at September 30, 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. We individually assess each impaired loan to determine if a specific reserve is needed within our allowance for loan losses beyond any charge-offs that may have already been taken.

The following schedule provides a summary of impaired assets:

(Dollars in thousands)	September 30, 2018	December 31, 2017		
Nonaccrual loans ⁽¹⁾ :				
Commercial	\$ 25,328	\$ 19,691		
Commercial real estate:				
Owner-occupied	14,936	19,070		
Non-owner occupied	8,991	5,270		
Vacant land	4,711	5,205		
Commercial real estate	28,638	29,545		
Real estate construction and land development	28,477	77		
Residential mortgage	9,611	8,635		
Consumer installment	1,350	842		
Home equity	3,269	4,305		
Total nonaccrual loans	96,673	63,095		
Other real estate and repossessed assets	6,584	8,807		
Total nonperforming assets	\$ 103,257	\$ 71,902		
Accruing troubled debt restructurings				
Commercial loan portfolio	\$ 29,383	\$ 34,484		
Consumer loan portfolio	13,642	14,298		
Total performing troubled debt restructurings	43,025	48,782		
Total impaired assets	\$ 146,282	\$ 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	\$ 717	\$ 13		
Consumer loan portfolio	475	1,364		
Total accruing loans contractually past due 90 days or more as to interest or principal payments	\$ 1,192	\$ 1,377		
Nonperforming loans as a percent of total loans	0.65	%	0.45	%
Nonperforming assets as a percent of total assets	0.49	%	0.37	%
Impaired assets as a percent of total assets	0.70	%	0.63	%

⁽¹⁾ Includes nonaccrual troubled debt restructurings.

Nonaccrual loans that meet the definition of a TDR (nonaccrual TDR) totaled \$28.1 million at September 30, 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.

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The following schedule summarizes impaired loans to commercial borrowers and the related valuation allowance at September 30, 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
September 30, 2018				
Impaired loans – originated commercial loan portfolio:				
With valuation allowance and no charge-offs	\$55,136	\$ 3,098	\$ —	6 %
With valuation allowance and charge-offs	5,428	458	6,452	58 %
With charge-offs and no valuation allowance	10,614	—	4,135	28 %
Without valuation allowance or charge-offs	40,419	—	—	— %
Total impaired loans to commercial borrowers	\$ 111,597	\$ 3,556	\$ 10,587	12 %
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	\$83,797	\$ 5,537	\$ 11,903	18 %

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 \$60.6 million at September 30, 2018 required a specific allocation of the allowance for loan losses (valuation allowance) of \$3.6 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 September 30, 2018 and December 31, 2017.

(Dollars in thousands)	September 30, 2018		December 31, 2017	
	Amount	Percent of Total	Amount	Percent of Total
Commercial loan portfolio:				
Commercial	\$25,328	26.2 %	\$19,691	31.2 %
Commercial real estate:				
Owner-occupied	14,936	15.4	19,070	30.2
Non-owner occupied	8,991	9.3	5,270	8.4
Vacant land	4,711	4.9	5,205	8.3
Total commercial real estate	28,638	29.6	29,545	46.9
Real estate construction and land development	28,477	29.5	77	0.1
Subtotal-commercial loan portfolio	82,443	85.3	49,313	78.2
Consumer loan portfolio:				
Residential mortgage	9,611	9.9	8,635	13.7
Consumer installment	1,350	1.4	842	1.3
Home equity	3,269	3.4	4,305	6.8
Subtotal-consumer loan portfolio	14,230	14.7	13,782	21.8

Total nonperforming loans	\$96,673	100.0%	\$63,095	100.0%
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Total nonperforming loans were \$96.7 million at September 30, 2018, an increase of \$33.6 million, or 53.2%, compared to \$63.1 million at December 31, 2017. Our nonperforming loans in the commercial loan portfolio were \$82.4 million at

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September 30, 2018, an increase of \$33.1 million, or 67.2%, from \$49.3 million at December 31, 2017. Nonperforming loans in the commercial loan portfolio comprised 85.3% of total nonperforming loans at September 30, 2018, compared to 78.2% at December 31, 2017. Our nonperforming loans in the consumer loan portfolio were \$14.2 million at September 30, 2018, an increase of \$0.4 million, or 3.3%, from \$13.8 million at December 31, 2017.

The following schedule summarizes changes in nonaccrual loans (including nonaccrual TDRs) during the three and nine months ended September 30, 2018 and 2017.

(Dollars in thousands)	Three Months Ended		Nine Months Ended	
	September 30, 2018	September 30, 2017	September 30, 2018	September 30, 2017
Balance at beginning of period	\$66,742	\$50,894	\$63,095	\$44,334
Additions during period	48,978	13,923	85,280	39,005
Principal balances charged off	(2,551)	(4,680)	(11,600)	(10,987)
Transfers to other real estate/repossessed assets	(1,272)	(1,046)	(3,625)	(4,427)
Returned to accrual status	(2,604)	(2,429)	(7,041)	(4,324)
Payments received	(12,623)	(2,357)	(29,439)	(9,296)
Balance at end of period	\$96,670	\$54,305	\$96,670	\$54,305

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 September 30, 2018 and December 31, 2017.

(Dollars in thousands)	September 30, 2018		December 31, 2017	
	Number of Borrowers	Amount	Number of Borrowers	Amount
\$5,000,000 or more	1	\$29,923	2	\$10,426
\$2,500,000 – \$4,999,999	4	13,382	—	—
\$1,000,000 – \$2,499,999	4	5,158	7	10,063
\$500,000 – \$999,999	11	8,011	12	8,593
\$250,000 – \$499,999	31	10,847	27	9,473
Under \$250,000	211	15,122	150	10,758
Total	262	\$82,443	198	\$49,313

Nonperforming commercial loans within the commercial loan portfolio were \$25.3 million at September 30, 2018, an increase of \$5.6 million, or 28.6%, compared to \$19.7 million at December 31, 2017. Nonperforming commercial loans comprised 0.7% of total commercial loans at September 30, 2018, compared to 0.6% at December 31, 2017.

Nonperforming commercial real estate loans within the commercial loan portfolio were \$28.6 million at September 30, 2018, a decrease of \$0.9 million, or 3.1%, compared to \$29.5 million at December 31, 2017.

Nonperforming commercial real estate loans comprised 0.6% and 0.7% of total commercial real estate loans at September 30, 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 \$14.9 million, \$9.0 million and \$4.7 million, respectively, at September 30, 2018. At September 30, 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 \$28.6 million in nonperforming commercial real estate loans at September 30, 2018 were three customer relationships totaling \$9.2 million with one customer relationship totaling \$3.6 million that was primarily secured by vacant land.

Nonperforming real estate construction and land development loans were \$28.5 million at September 30, 2018, an increase of \$28.4 million compared to \$0.1 million at December 31, 2017. The increase in nonperforming real estate construction and land development loans was primarily due to one real estate construction loan relationship being downgraded to nonaccrual status during the third quarter of 2018. Nonperforming real estate construction and land

development loans comprised 4.6% of total real estate construction and land development loans at September 30, 2018, compared to less than 0.1% at December 31, 2017.

At September 30, 2018, we had nonperforming loans in the commercial loan portfolio of \$1.7 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 \$9.6 million at September 30, 2018, an increase of \$1.0 million, or 11.3%, from \$8.6 million at December 31, 2017. Nonperforming residential mortgage loans comprised 0.3% of total residential mortgage loans at September 30, 2018 and December 31, 2017. At September 30, 2018, a total of \$1.7 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 \$1.4 million at September 30, 2018, compared to \$0.8 million at December 31, 2017. Nonperforming consumer installment loans comprised 0.1% of total consumer installment loans at both September 30, 2018 and December 31, 2017.

Nonperforming home equity loans were \$3.3 million at September 30, 2018, a decrease of \$1.0 million, or 24.1%, compared to \$4.3 million at December 31, 2017. Nonperforming home equity loans comprised 0.4% of total home equity loans at September 30, 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 September 30, 2018 and December 31, 2017:

(Dollars in thousands)	Accruing TDRs		Subtotal	Nonaccrual TDRs	Total
	Current	Past due 31-90 days			
September 30, 2018					
Commercial loan portfolio	\$28,696	\$ 687	\$29,383	\$ 24,091	\$53,474
Consumer loan portfolio	13,367	275	13,642	3,970	17,612
Total TDRs	\$42,063	\$ 962	\$43,025	\$ 28,061	\$71,086
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

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A summary of changes in our accruing TDRs in the commercial loan portfolio for the three and nine months ended September 30, 2018 and 2017 follows:

(Dollars in thousands)	Three Months Ended		Nine Months Ended	
	September 30, 2018	September 30, 2017	September 30, 2018	September 30, 2017
Balance at beginning of period	\$34,161	\$39,714	\$34,484	\$45,388
Additions for modifications	2,532	2,144	6,607	3,363
Principal payments and pay-offs	(3,441)	(2,747)	(5,685)	(6,562)
Transfers from nonaccrual status	1,758	2,110	1,825	3,286
Transfers to nonaccrual status	(5,627)	(335)	(7,848)	(4,589)
Balance at end of period	\$29,383	\$40,886	\$29,383	\$40,886

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 \$6.0 million at September 30, 2018, a decrease of \$2.2 million, or 26.4%, from \$8.2 million at December 31, 2017. The decrease in ORE during the nine months ended September 30, 2018 was primarily attributable to ORE sales. Repossessed assets totaled \$0.6 million at both September 30, 2018 and December 31, 2017.

The following schedule provides the composition of ORE at September 30, 2018 and December 31, 2017:

(Dollars in thousands)	September 30, 2018	December 31, 2017
Composition of ORE:		
Vacant land	\$ 315	\$ 2,064
Commercial real estate properties	2,787	3,363
Residential real estate properties	2,916	2,755
Total ORE	\$ 6,018	\$ 8,182

The following schedule summarizes ORE activity during the three and nine months ended September 30, 2018 and 2017:

(Dollars in thousands)	Three Months Ended		Nine Months Ended	
	September 30, 2018	September 30, 2017	September 30, 2018	September 30, 2017
Balance at beginning of period	\$4,877	\$13,637	\$8,182	\$16,812
Transfers based on adoption of ASU 2014-09	—	—	(189)	—
Additions	2,833	1,563	5,281	5,339
Write-downs	(424)	(550)	(1,207)	(1,323)
Net payments received	(51)	(380)	(190)	(582)
Dispositions	(1,217)	(4,204)	(5,859)	(10,180)
Balance at end of period	\$6,018	\$10,066	\$6,018	\$10,066

Our ORE is carried at the lower of cost or fair value less estimated cost to sell. We had \$1.4 million in ORE at September 30, 2018 that had been held in excess of one year, of which \$0.6 million had been held in excess of three years. We had \$10.4 million of nonperforming loans that were in the process of foreclosure at September 30, 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 September 30, 2018, the carrying value of ORE of \$6.0 million was reflective of \$3.0 million in charge-offs, write-downs and acquisition-related fair value adjustments.

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During the nine months ended September 30, 2018, we sold 94 ORE properties for proceeds of \$6.9 million. On an average basis, the net proceeds from these sales represented 116% of the carrying value of the property at the time of sale, with the proceeds representing 64% 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. The results of our quarterly re-estimation of cash flows on our acquired loan portfolio resulted in \$970 thousand of allowance established for our acquired loan portfolios as of September 30, 2018, compared to no allowance as of December 31, 2017, and a \$579 thousand allowance as of September 30, 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)	September 30, 2018	December 31, 2017		
Allowance for loan losses:				
Originated loans	\$103,071	\$91,887		
Acquired loans	970	—		
Total	\$104,041	\$91,887		
Nonperforming loans	\$96,673	\$63,095		
Allowance for loan losses (originated loans) as a percent of:				
Total originated loans	0.93	%	0.94	%
Nonperforming loans	107	%	146	%
Nonperforming loans, less impaired originated loans for which the expected loss has been charged-off	120	%	157	%

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

(Dollars in thousands)	Three Months Ended			Nine Months Ended		
	September 30, 2018	June 30, 2018	September 30, 2017	September 30, 2018	September 30, 2017	
Allowance for loan losses - originated loan portfolio						
Allowance for loan losses - beginning of period	\$ 100,015	\$ 94,762	\$ 83,797	\$ 91,887	\$ 78,268	
Provision for loan losses	5,058	9,572	4,920	20,886	15,199	
Loan charge-offs:						
Commercial	(1,022)	(1,210)	(3,521)	(3,725)	(6,513)	
Commercial real estate:						
Owner-occupied	(16)	(1,752)	(255)	(1,915)	(583)	
Non-owner occupied	(10)	(2)	(16)	(507)	(86)	
Vacant land	—	(926)	—	(1,376)	(18)	
Total commercial real estate	(26)	(2,680)	(271)	(3,798)	(687)	
Real estate construction and land development						
Residential mortgage	(790)	(172)	(174)	(1,121)	(985)	
Consumer installment	(1,819)	(1,389)	(1,312)	(4,704)	(4,473)	
Home equity	(71)	(275)	(164)	(921)	(653)	
Total loan charge-offs	(3,728)	(5,726)	(5,442)	(14,278)	(13,320)	
Recoveries of loans previously charged off:						
Commercial	458	693	1,173	1,392	1,927	
Commercial real estate:						
Owner-occupied	271	96	85	855	965	
Non-owner occupied	402	94	9	535	65	
Vacant land	2	5	3	9	8	
Total commercial real estate	675	195	97	1,399	1,038	
Real estate construction and land development						
Residential mortgage	17	84	130	207	393	
Consumer installment	409	395	455	1,303	1,559	
Home equity	167	40	51	240	117	
Total loan recoveries	1,726	1,407	1,906	4,576	5,034	
Net loan charge-offs	(2,002)	(4,319)	(3,536)	(9,702)	(8,286)	
Allowance for loan losses - end of period	103,071	100,015	85,181	103,071	85,181	
Allowance for loan losses - acquired loan portfolio						
Allowance for loan losses - beginning of period	—	—	—	—	—	
Provision for loan losses	970	—	579	970	579	
Allowance for loan losses - end of period	970	—	579	970	579	
Total allowance for loan losses	\$ 104,041	\$ 100,015	\$ 85,760	\$ 104,041	\$ 85,760	
Net loan charge-offs as a percent of average loans (annualized)	0.05	% 0.12	% 0.10	% 0.09	% 0.08	%

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

(Dollars in thousands)	September 30, 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	\$33,462	19.9	%	\$25,329	17.0	%
Commercial real estate:						
Owner-occupied	17,473	9.0		15,664	8.4	
Non-owner occupied	18,305	12.7		18,309	10.7	
Vacant land	827	0.3		1,145	0.3	
Total commercial real estate	36,605	22.0		35,118	19.4	
Real estate construction and land development	4,747	3.7		5,686	3.5	
Residential mortgage	15,620	15.4		13,375	13.9	
Consumer Installment	9,019	10.0		8,577	10.7	
Home equity	3,618	4.1		3,802	4.3	
Subtotal — originated loans	103,071	75.1	%	91,887	68.8	%
Acquired loans	970	24.9		—	31.2	
Total	\$104,041	100.0	%	\$91,887	100.0	%

Deposits

Total deposits were \$15.44 billion at September 30, 2018, an increase of \$1.80 billion, or 13.2%, from total deposits of \$13.64 billion at December 31, 2017. The increase in total deposits during the nine months ended September 30, 2018 was spread across all deposit types. Interest- and noninterest-bearing checking deposits, money market and savings accounts totaled \$11.27 billion at September 30, 2018, compared to \$10.11 billion at December 31, 2017. Time and brokered deposits totaled \$4.17 billion at September 30, 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 nine months ended September 30, 2018, our efforts to expand deposit relationships with existing and new customers, our financial strength, and a general trend in customers holding more liquid assets have resulted in continued increases in customer deposits.

At September 30, 2018, time deposits, which consist of certificates of deposit, including CDARS, IRA deposits and other brokered funds, totaled \$3.87 billion, of which \$661.6 million 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 September 30, 2018:

(Dollars in thousands)	Amount	Weighted Average Interest Rate	%
2018 remaining maturities	\$661,635	1.3	%

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2019 maturities	2,212,440	1.8	
2020 maturities	730,621	2.1	
2021 maturities	148,038	1.5	
2022 maturities	82,155	1.6	
2023 maturities and beyond	30,600	1.6	
Total time deposits	\$3,865,489	1.8	%

The below table presents the maturity distribution of time deposits of \$250,000 or more at September 30, 2018. Time deposits of \$250,000 or more totaled \$2.14 billion and represented 13.9% of total deposits at September 30, 2018.

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(Dollars in thousands)	September 30, 2018	
	Amount	Percent
Maturity:		
Within 3 months	\$547,983	25.6 %
After 3 but within 6 months	441,970	20.6
After 6 but within 12 months	802,822	37.5
After 12 months	348,026	16.3
Total	\$2,140,801	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 and subordinated debt obligations. Long-term borrowings also included a non-revolving line-of-credit as of December 31, 2017.

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 \$377.5 million at September 30, 2018, compared to \$415.2 million at December 31, 2017.

Short-term Borrowings

Short-term borrowings were \$1.67 billion at September 30, 2018, compared to \$2.00 billion at December 31, 2017 and were comprised solely of FHLB borrowings. 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 \$7.62 billion at September 30, 2018. The average daily balance, average interest rate during the period and maximum month-end balance of short-term FHLB advances during the nine months ended September 30, 2018 were \$2.1 billion, 1.81% and \$2.4 billion, respectively. We rely on short-term FHLB advances to cover short-term liquidity needs.

Long-term Borrowings

Long-term borrowings were \$431.0 million and \$372.9 million at September 30, 2018 and December 31, 2017, respectively. Our line-of-credit relationship was repaid in the second quarter of 2018 and the contract ended in the third quarter of 2018.

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

(Dollars in thousands)	September	December
	30, 2018	31, 2017
Long-term borrowings:		
Long-term FHLB advances	\$415,118	\$337,204

Non-revolving line-of-credit	—	19,963
Subordinated debt obligations	15,853	15,715
Total long-term borrowings	\$430,971	\$372,882

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 September 30, 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. Refer to Note 11 to our Consolidated Financial Statements for a further discussion of these obligations.

(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	\$1,201,852	\$702,221	\$288,265	\$299,456	\$2,491,794
Loans to consumer borrowers	110,947	134,122	154,244	212,652	611,965
Total unused commitments to extend credit	1,312,799	836,343	442,509	512,108	3,103,759
Undisbursed loan commitments ⁽¹⁾	600,747	—	—	—	600,747
Standby letters of credit	66,866	20,353	21,772	17,081	126,072
Total credit-related commitments	\$1,980,412	\$856,696	\$464,281	\$529,189	\$3,830,578

⁽¹⁾ Excludes \$120.2 million of residential mortgage loan originations that were expected to be sold in the secondary market.

Capital

Capital supports current operations and provides the foundation for future growth and expansion. Our total shareholders' equity was \$2.79 billion at September 30, 2018, an increase of \$120.2 million, or 4.5%, from total shareholders' equity of \$2.67 billion at December 31, 2017. Our total shareholders' equity as a percentage of total assets was 13.3% at September 30, 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 \$1.63 billion at September 30, 2018 and \$1.51 billion at December 31, 2017. Our tangible shareholders' equity to tangible assets ratio was 8.3% at both September 30, 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 \$15.30 billion and \$15.26 billion at September 30, 2018, respectively, compared to \$14.74 billion and \$14.70 billion at December 31, 2017, respectively. The increase in risk-weighted assets during the nine months ended September 30, 2018 was primarily attributable to loan growth and increases 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.

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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 September 30, 2018, as shown in the following schedule:

	September 30, 2018			
	Leverage Ratio	Risk-Based Capital Ratios		
		CET Tier 1	Tier 1	Total
Actual Capital Ratios:				
Chemical Financial Corporation	8.6%	10.9%	10.9%	11.7%
Chemical Bank	8.6	10.8	10.8	11.6
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 September 30, 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 \$70.4 million, or \$0.98 per diluted share, in the third quarter of 2018, compared to net income of \$69.0 million, or \$0.96 per diluted share, in the second quarter of 2018, and net income of \$40.5 million, or \$0.56 per diluted share, in the third quarter of 2017. Net income in the third quarter of 2017, excluding significant items, a non-GAAP financial measure, was \$54.2 million, or \$0.76 per diluted share. Significant items consisted of \$21.2 million of merger and restructuring expenses in the third quarter of 2017. We had no significant items in the third quarter of 2018 or the second quarter of 2018. The increase in net income in the third quarter of 2018, compared to the second quarter of 2018, was driven by an increase in our net interest income resulting from increases in average balances and yields earned on our loan and investment security portfolios. The increase in net income, excluding significant items, in the third quarter of 2018, compared to the third quarter of 2017, was primarily attributable to an increase in net interest income primarily due to increases in average balances and yields earned on our loan portfolio and an increase in investment securities.

Our net income was \$211.0 million, or \$2.93 per diluted share, for the nine months ended September 30, 2018, compared to net income of \$140.1 million, or \$1.95 per diluted share, for the nine months ended September 30, 2017. Net income for the nine months ended September 30, 2017, excluding significant items, net of tax, a non-GAAP financial measure, was \$156.9 million, or \$2.19 per diluted share. Significant items consisted of \$25.8 million of merger and restructuring expenses for the nine months ended September 30, 2017. We had no significant items in the nine months ended September 30, 2018. The increase in net income in the nine months ended September 30, 2018, excluding significant items, compared to the nine months ended September 30, 2017, was primarily driven by an increase in net interest income, largely due to an increase in average balances and yields earned on loans and investment securities, partially offset by increases in average deposit balances and cost of funds, as well as the benefit from a decrease in our income tax following the enactment of the Tax Cuts and Jobs Act, which reduced the federal corporate tax rate to 21% from 35%, effective January 1, 2018.

Return on average assets was 1.37% in the third quarter of 2018, compared to 1.39% in the second quarter of 2018 and 0.86% in the third quarter of 2017. Return on average assets in the third quarter of 2017, excluding significant items, a non-GAAP financial measure, net of tax was 1.15%. Return on average shareholders' equity was 10.2% in

both the third quarter of 2018 and in the second quarter of 2018, compared to 6.1% in the third quarter of 2017. Return on average shareholders' equity in the third quarter of 2017, excluding significant items, a non-GAAP financial measure, was 8.2%. Our return on average tangible shareholders' equity was 17.5% in the third quarter of 2018, compared to 17.8% in the second quarter of 2018 and 10.9% in the third quarter of 2017. Our return on average tangible equity in the third quarter of 2017, excluding significant items, a non-GAAP financial measure, was 14.6%.

Return on average assets was 1.41% in the nine months ended September 30, 2018, compared to 1.03% in the nine months ended September 30, 2017. Return on average assets in the nine months ended September 30, 2017, excluding significant items, a non-GAAP financial measure, was 1.15%. Return on average shareholders' equity in the nine months ended September 30, 2018 was 10.3%, compared to 7.2% in the nine months ended September 30, 2017. Return on average shareholders' equity in the nine months ended September 30, 2017, excluding significant items, a non-GAAP financial measure, was 8.0%. Our return on average

tangible shareholders' equity was 18.0% in the nine months ended September 30, 2018, compared to 12.8% in the nine months ended September 30, 2017. Our return on average tangible equity in the nine months ended September 30, 2017, excluding significant items, a non-GAAP financial measure, was 14.4%.

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 80.8% of net revenue for the third quarter of 2018, compared to 80.6% for the second quarter of 2018 and 81.7% for the third quarter of 2017. Net interest income represented 80.1% of net revenue during the nine months ended September 30, 2018, compared to 78.7% during the nine months ended September 30, 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 September 30, 2018, June 30, 2018 and September 30, 2017 and for the nine months ended September 30, 2018 and September 30, 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."

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(Dollars in thousands)	Three Months Ended September 30, 2018			June 30, 2018			September 30, 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 ⁽¹⁾⁽²⁾	\$14,740,445	\$173,453	4.68 %	\$14,389,574	\$166,125	4.63 %	\$13,795,750	\$149,595	4.31 %
Taxable investment securities	2,187,644	16,360	2.99	2,019,003	14,706	2.91	1,629,344	9,326	2.29
Tax-exempt investment securities ⁽¹⁾	1,038,301	7,797	3.00	1,020,567	7,592	2.98	896,854	7,013	3.13
Other interest-earning assets	193,350	1,368	2.81	189,654	2,189	4.63	180,188	1,039	2.29
Interest-bearing deposits with the FRB and other banks and federal funds sold	330,940	1,785	2.14	228,464	1,301	2.28	313,104	1,231	1.56
Total interest-earning assets	18,490,680	200,763	4.32	17,847,262	191,913	4.31	16,815,240	168,204	3.98
Less: Allowance for loan losses	(101,689)			(96,332)			(84,640)		
Other assets:									
Cash and cash due from banks	223,038			219,751			250,743		
Premises and equipment	125,153			126,570			146,266		
Interest receivable and other assets	1,764,041			1,753,742			1,730,539		
Total assets	\$20,501,223			\$19,850,993			\$18,858,148		
Liabilities and shareholders' equity									
Interest-bearing Liabilities:									
Interest-bearing checking deposits	\$2,705,746	\$2,836	0.42 %	\$2,597,610	\$1,393	0.22 %	\$2,725,807	\$1,321	0.19 %
Savings deposits	4,378,620	8,417	0.76	4,116,683	6,074	0.59	4,012,299	3,985	0.39
Time deposits	3,846,857	15,997	1.65	3,468,395	12,240	1.42	3,007,109	7,620	1.01
Collateralized customer deposits	374,833	721	0.76	399,911	641	0.64	385,976	462	0.47
Short-term borrowings	1,885,741	9,510	2.00	2,249,655	10,408	1.86	1,894,022	6,129	1.28
Long-term borrowings	341,282	1,415	1.65	336,985	1,289	1.53	426,155	1,799	1.67
	13,533,079	38,896	1.14	13,169,239	32,045	0.98	12,451,368	21,316	0.68

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Total interest-bearing liabilities									
Noninterest-bearing deposits	4,004,433	—	—	3,792,803	—	—	3,643,765	—	—
Total deposits and borrowed funds	17,537,512	38,896	0.88	16,962,042	32,045	0.76	16,095,133	21,316	0.53
Interest payable and other liabilities	194,610			181,605			119,782		
Shareholders' equity	2,769,101			2,707,346			2,643,233		
Total liabilities and shareholders' equity	\$20,501,223			\$19,850,993			\$18,858,148		
Net Interest Spread (Average yield earned minus average rate paid)			3.18 %			3.33 %			3.30 %
Net Interest Income (FTE)		\$161,867			\$159,868			\$146,888	
Net Interest Margin (Net interest income (FTE) divided by total average interest-earning assets)			3.48 %			3.59 %			3.48 %
Reconciliation to Reported Net Interest Income									
Net interest income, fully taxable equivalent (non-GAAP)		\$161,867			\$159,868			\$146,888	
Adjustments for taxable equivalent interest ⁽¹⁾ :									
Loans		(767)			(737)			(824)	
Tax-exempt investment securities		(1,619)			(1,594)			(2,436)	
Total taxable equivalent interest adjustments		(2,386)			(2,331)			(3,260)	
Net interest income (GAAP)		\$159,481			\$157,537			\$143,628	
Net interest margin (GAAP)			3.42 %			3.54 %			3.40 %

(1) Fully taxable equivalent (FTE) basis using a federal income tax rate of 21% for the three months ended September 30, 2018 and June 30, 2018 and 35% for the three months ended September 30, 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. Tax equivalent interest also includes net loan fees.

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	Nine Months Ended September 30, 2018			September 30, 2017		
	Average Balance	Interest (FTE)	Effective Yield/Rate (1)	Average Balance	Interest (FTE)	Effective Yield/Rate (1)
Assets						
Interest-earning assets:						
Loans ⁽¹⁾⁽²⁾	\$14,453,537	\$497,146	4.60 %	\$13,490,851	\$425,016	4.21 %
Taxable investment securities	1,997,700	43,485	2.90	1,335,349	21,207	2.12
Tax-exempt investment securities ⁽¹⁾	1,023,090	22,422	2.92	880,398	20,290	3.07
Other interest-earning assets	187,745	5,458	3.89	150,203	2,906	2.59
Interest-bearing deposits with the FRB and other banks and federal funds sold	274,353	4,326	2.11	294,967	3,052	1.38
Total interest-earning assets	17,936,425	572,837	4.27	16,151,768	472,471	3.91
Less: Allowance for loan losses	(96,923)			(81,337)		
Other assets:						
Cash and cash due from banks	223,136			234,379		
Premises and equipment	126,150			145,877		
Interest receivable and other assets	1,757,251			1,753,337		
Total assets	\$19,946,039			\$18,204,024		
Liabilities and shareholders' equity						
Interest-bearing Liabilities:						
Interest-bearing checking deposits	\$2,689,982	\$5,454	0.27 %	\$2,768,209	\$3,628	0.18 %
Savings deposits	4,181,983	19,427	0.62	3,912,672	8,753	0.30
Time deposits	3,528,080	37,993	1.44	2,973,070	20,043	0.90
Collateralized customer deposits	394,481	1,886	0.64	352,629	808	0.31
Short-term borrowings	2,063,083	28,084	1.82	1,495,696	12,100	1.08
Long-term borrowings	350,214	4,168	1.59	479,344	5,968	1.66
Total interest-bearing liabilities	13,207,823	97,012	0.98	11,981,620	51,300	0.57
Noninterest-bearing deposits	3,829,764	—	—	3,484,125	—	—
Total deposits and borrowed funds	17,037,587	97,012	0.76	15,465,745	51,300	0.44
Interest payable and other liabilities	187,632			126,649		
Shareholders' equity	2,720,820			2,611,630		
Total liabilities and shareholders' equity	\$19,946,039			\$18,204,024		
Net Interest Spread (Average yield earned minus average rate paid)			3.29 %			3.34 %
Net Interest Income (FTE)		\$475,825			\$421,171	
Net Interest Margin (Net Interest Income (FTE) divided by total average interest-earning assets)			3.54 %			3.48 %
Reconciliation to Reported Net Interest Income						
Net interest income, fully taxable equivalent (non-GAAP)		\$475,825			\$421,171	
Adjustments for taxable equivalent interest ⁽¹⁾ :						
Loans		(2,254)			(2,446)	
Tax-exempt investment securities		(4,690)			(7,052)	

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Total taxable equivalent interest adjustments	(6,944)	(9,498)
Net interest income (GAAP)	\$468,881	\$411,673
Net interest margin (GAAP)	3.49 %	3.40 %

Fully taxable equivalent (FTE) basis using a federal income tax rate of 21% for the nine months ended (1) September 30, 2018 and 35% for the nine months ended September 30, 2017. The presentation of net interest income on a FTE basis is not in accordance with GAAP, but is customary in the banking industry.

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

Net interest income (FTE) of \$161.9 million in the third quarter of 2018 was \$2.0 million, or 1.3%, higher than net interest income (FTE) of \$159.9 million in the second quarter of 2018, and 10.2% higher than net interest income (FTE) of \$146.9 million in the third quarter of 2017. The increase in net interest income (FTE) in the third quarter of 2018, compared to both the second quarter of 2018 and the third quarter of 2017, was primarily attributable to increases in average balances and yields earned on loans and investment securities, partially offset by an increase in our average balances of deposits and funding costs. The net interest margin (FTE) was 3.48% in the third quarter of 2018, compared to 3.59% in the second quarter of 2018 and 3.48% in the third quarter of 2017. The decrease in the net interest margin (FTE), in the third quarter of 2018, compared to the second quarter of 2018, was primarily due to an increase in average deposit balances and cost of funds. Our net interest margin (FTE) in the third quarter of 2018 and the third quarter of 2017 remained the same, as the increase in average deposit balances and costs of funds in the third quarter of 2018 was offset by the increase in yield and average balances on loans and investment securities. The average yield on interest-earning assets increased one basis point to 4.32% in the third quarter of 2018, from 4.31% in the second quarter of 2018, and increased 34 basis points compared to 3.98% in the third quarter of 2017. Interest accretion from purchase accounting discounts on acquired loans contributed 23 basis points to our net interest margin (FTE) in the third quarter of 2018, compared to 26 basis points in the second quarter of 2018 and 23 basis points in the third quarter of 2017. The yield on total loans in the third quarter of 2018 of 4.68%, increased five basis points compared to 4.63% in the second quarter of 2018, and increased 37 basis points compared to 4.31% in the third quarter of 2017, primarily due to higher yields on new loan fundings and the benefit from interest rate adjustments on variable rate loans during 2018. The average cost of interest-bearing liabilities increased 16 basis points to 1.14% in the third quarter of 2018, compared to 0.98% in the second quarter of 2018, and increased 46 basis points, compared to 0.68% in the third quarter of 2017, primarily due to an increase in funding costs resulting from the rising interest rate environment and deposit growth initiatives we have undertaken.

Net interest income (FTE) of \$475.8 million for the nine months ended September 30, 2018 was \$54.6 million, or 13.0%, higher than net interest income (FTE) of \$421.2 million for the nine months ended September 30, 2017, primarily attributable to increases in average balances and yields earned on loans and investment securities, partially offset by an increase in our average balances of deposits and funding costs. The net interest margin (FTE) increased to 3.54% for the nine months ended September 30, 2018, compared to 3.48% for the nine months ended September 30, 2017. The average yield on interest-earning assets increased 36 basis points to 4.27% in the nine months ended September 30, 2018 from 3.91% in the nine months ended September 30, 2017. The increase in our investment securities portfolio was primarily due to management's long-term plan to increase investment securities as a percent of total assets. Interest accretion from purchase accounting discounts on acquired loans contributed 26 basis points to our net interest margin (FTE) in the nine months ended September 30, 2018, compared to 19 basis points in the nine months ended September 30, 2017. The average cost of interest-bearing liabilities increased 41 basis points to 0.98% in the nine months ended September 30, 2018, from 0.57% in the nine months ended September 30, 2017, primarily due to an increase in funding costs resulting from a rising interest rate environment combined with an increase in average balances of deposits and short-term borrowings.

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 5.25% in September 2018 from the previous rates of 5.00% in June 2018, 4.75% in January 2018 and

from 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 tables present 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 September 30, 2018					
	Compared to Three Months Ended June 30, 2018			Compared to Three Months Ended September 30, 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	\$4,971	\$ 2,357	\$ 7,328	\$11,605	\$ 12,253	\$ 23,858
Taxable investment securities/other assets	1,287	(454)	833	3,822	3,541	7,363
Tax-exempt investment securities	148	57	205	1,092	(308)	784
Interest-bearing deposits with the FRB and other banks	509	(25)	484	43	511	554
Total change in interest income on interest-earning assets	6,915	1,935	8,850	16,562	15,997	32,559
Changes in Interest Expense on Interest-Bearing Liabilities:						
Interest-bearing demand deposits	76	1,367	1,443	(19)	1,534	1,515
Savings deposits	927	1,416	2,343	1,052	3,380	4,432
Time deposits	995	2,762	3,757	2,962	5,415	8,377
Collateralized customer deposits	(30)	110	80	(6)	265	259
Short-term borrowings	(1,787)	889	(898)	(27)	3,408	3,381
Long-term borrowings	15	111	126	(362)	(22)	(384)
Total change in interest expense on interest-bearing liabilities	196	6,655	6,851	3,600	13,980	17,580
Total Change in Net Interest Income (FTE) ⁽²⁾	\$6,719	\$ (4,720)	\$ 1,999	\$12,962	\$ 2,017	\$ 14,979

(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 each three month period during 2018 and 35% for the three month period ended 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.

(Dollars in thousands)	Nine Months Ended September 30, 2018 Compared to Nine Months Ended September 30, 2017		
	Increase (Decrease) Due to Changes in Average Volume ⁽¹⁾	Average Yield/Rate ⁽¹⁾	Combined Increase/ (Decrease)
Changes in Interest Income on Interest-Earning Assets:			
Loans	\$34,514	\$ 37,616	\$ 72,130
Taxable investment securities/other assets	13,692	11,138	24,830
Tax-exempt investment securities	3,177	(1,045)	2,132
Interest-bearing deposits with the FRB and other banks	(402)	1,676	1,274
Total change in interest income on interest-earning assets	50,981	49,385	100,366
Changes in Interest Expense on Interest-Bearing Liabilities:			
Interest-bearing demand deposits	(112)	1,938	1,826
Savings deposits	1,793	8,881	10,674
Time deposits	4,893	13,057	17,950
Collateralized customer deposits	108	970	1,078
Short-term borrowings	5,696	10,288	15,984
Long-term borrowings	(1,556)	(244)	(1,800)
Total change in interest expense on interest-bearing liabilities	10,822	34,890	45,712
Total Change in Net Interest Income (FTE) ⁽²⁾	\$40,159	\$ 14,495	\$ 54,654

(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 (FTE) basis using a federal income tax rate of 21% for the nine months ended September 30, 2018 and 35% for the nine months ended September 30, 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 on acquired loans during each reporting period.

The total provision was \$6.0 million in the third quarter of 2018, compared to \$9.6 million in the second quarter of 2018 and \$5.5 million in the third quarter of 2017. The decrease in the provision in the third quarter of 2018, compared to the second quarter of 2018, was primarily the result of lower net originated loan growth and improvements in both the collateral position of loans that are individually evaluated for impairment and overall credit quality, partially offset by \$970 thousand of impairment recorded during the third quarter of 2018 resulting from our quarterly re-estimation of cash flows on acquired loans. The increase in the provision in the third quarter of 2018, compared to the third quarter of 2017, was primarily the result of an increase in impairment recorded as resulting from our quarterly re-estimation of cash flows on acquired loans. Net originated loan growth was \$448.9 million in the third quarter of 2018, which was partially offset by \$232.4 million of run-off in the acquired loan portfolio during the same period, compared to net originated loan growth of \$684.0 million in the second quarter of 2018, partially offset by run-off of \$323.1 million in the acquired loan portfolio during the same period, and net originated loan growth of

\$496.5 million in the third quarter of 2017, partially offset by run-off of \$330.5 million in the acquired loan portfolio during the same period.

The total provision was \$21.9 million in the nine months ended September 30, 2018, compared to \$15.8 million in the nine months ended September 30, 2017. The \$6.1 million increase was primarily due to an increase in net originated loan growth and an increase in the impairment recorded resulting from our quarterly re-estimation of cash flows on acquired loans. All acquired loans were recorded at their estimated fair value at each respective acquisition date without a carryover of the related allowance for loan losses and, as of September 30, 2018 and September 30, 2017, the allowance recorded for this population of loans was \$970 thousand and \$579 thousand, respectively. At December 31, 2017, we determined no allowance was needed for our acquired loan portfolio.

We experienced net loan charge-offs of \$2.0 million, or 0.05% of average loans, in the third quarter of 2018, compared to \$4.3 million, or 0.12% of average loans, in the second quarter of 2018 and \$3.5 million, or 0.10% of average loans, in the third quarter of 2017. The decrease in charge-offs in the third quarter of 2018, compared to both the second quarter of 2018 and the third quarter of 2017, was primarily due to improvements in the collateral position of impaired loans. Net loan charge-offs in the commercial loan portfolios totaled \$85 thousand in the third quarter of 2018, compared to \$3.0 million in the second quarter of

2018 and \$2.5 million in the third quarter of 2017. Net loan charge-offs in the consumer loan portfolios totaled \$2.1 million in the third quarter of 2018, compared to \$1.3 million in the second quarter of 2018 and \$1.0 million in the third quarter of 2017.

Net loan charge-offs were \$9.7 million, or 0.09% of average loans, in the nine months ended September 30, 2018, compared to \$8.3 million, or 0.08% of average loans, in the nine months ended September 30, 2017. Net loan charge-offs in the commercial loan portfolios totaled \$4.7 million in the nine months ended September 30, 2018, compared to \$4.2 million in the nine months ended September 30, 2017. Net loan charge-offs in the consumer loan portfolios totaled \$5.0 million in the nine months ended September 30, 2018, compared to \$4.0 million in the nine months ended September 30, 2017.

Noninterest Income

The following table presents the major components of noninterest income:

(Dollars in thousands)	Three Months Ended		Nine Months Ended			
	September 30, 2018	June 30, 2018	September 30, 2017	September 30, 2018	September 30, 2017	
Noninterest income						
Service charges and fees on deposit accounts	\$8,187	\$8,615	\$ 9,147	\$25,265	\$ 25,928	
Wealth management revenue	6,040	7,188	6,188	19,539	18,973	
Electronic banking fees ⁽¹⁾	4,793	4,250	4,370	13,100	18,669	
Net gain on sale of loans and other mortgage banking revenue ⁽²⁾	8,905	8,874	9,282	26,562	30,642	
Change in fair value in loan servicing rights ⁽²⁾	932	(30)	(4,041)	4,654	(6,362)	
Other fees for customer services ⁽¹⁾	1,668	1,607	1,749	4,970	5,055	
Insurance commissions ⁽¹⁾	20	17	505	39	1,525	
Gain on sale of investment securities	—	3	1	3	168	
Bank-owned life insurance ⁽³⁾	1,167	1,669	1,124	3,727	3,441	
Rental income ⁽³⁾	181	180	280	560	578	
Other	6,024	5,645	3,517	18,070	13,083	
Total noninterest income	\$37,917	\$38,018	\$ 32,122	\$116,489	\$ 111,700	
Noninterest income as a percentage of:						
Net revenue (net interest income plus noninterest income)	19.2	% 19.4	% 18.3	% 19.9	% 21.3	%
Average total assets (annualized)	0.7	% 0.8	% 0.7	% 0.8	% 0.8	%

(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) Included within the line item "Other" noninterest income in the Consolidated Statements of Income.

Noninterest income was \$37.9 million in the third quarter of 2018, compared to \$38.0 million in the second quarter of 2018 and \$32.1 million in the third quarter of 2017. Noninterest income in the third quarter of 2018 decreased \$0.1 million, or 0.3%, compared to the second quarter of 2018, primarily due to a decrease in wealth management revenue of \$1.1 million, partially offset by the change in fair value in loan servicing rights of \$1.0 million. Noninterest income in the third quarter of 2018 increased \$5.8 million, or 18.0%, compared to the third quarter of 2017, primarily due to the change in the impact to earnings from the change in fair value in loan servicing rights of \$5.0 million. Noninterest income increased \$4.8 million to \$116.5 million in the nine months ended September 30, 2018, compared to \$111.7 million in the nine months ended September 30, 2017, primarily due to the change in the impact to earnings from the change in fair value in loan servicing rights of \$11.0 million and an increase in interest rate swap income of \$4.3

million, included within "other" noninterest income, partially offset by decreases in electronic banking fees of \$5.6 million and net gain on sale of loans and other mortgage banking revenue of \$4.1 million.

Service charges and fees on deposit accounts, which include overdraft/non-sufficient funds fees, checking account fees and other deposit account charges, were \$8.2 million in the third quarter of 2018, \$8.6 million in the second quarter of 2018, and \$9.1 million in the third quarter of 2017. Service charges and fees on deposit accounts decreased \$0.4 million, or 5.0%, in the third quarter of 2018, compared to the second quarter of 2018, and \$0.9 million, or 10.5%, from the third quarter of 2017. Overdraft/non-sufficient funds fees included in service charges and fees on deposit accounts were \$5.4 million in the third quarter of 2018, compared to \$6.1 million in the second quarter of 2018 and \$6.6 million in the third quarter of 2017. Service charges and fees on deposit accounts were \$25.3 million in the nine months ended September 30, 2018, compared to \$25.9 million in the nine months ended September 30, 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 \$6.0 million in the third quarter of 2018, compared to \$7.2 million in the second quarter of 2018 and \$6.2 million in the third quarter of 2017. Wealth management revenue decreased \$1.2 million, or 16.0%, in the third quarter of 2018, compared to the second quarter of 2018, mostly due to seasonal trust fees earned in the second quarter of 2018. Wealth management revenue was \$19.5 million in the nine months ended September 30, 2018, an increase of \$0.5 million, or 3.0%, compared to \$19.0 million in the nine months ended September 30, 2017, primarily due to an increase in average trust assets under administration.

At September 30, 2018, the estimated fair value of trust assets under administration was \$5.13 billion (comprised of discretionary assets of \$2.69 billion and nondiscretionary assets of \$2.44 billion), and was \$5.13 billion at December 31, 2017 (comprised of 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 \$1.2 million in the third quarter of 2018, compared to \$1.5 million in the second quarter of 2018 and \$1.2 million in the third quarter of 2017.

Electronic banking fees, which represent income earned from ATM transactions, debit card activity and internet banking fees were \$4.8 million in the third quarter of 2018, compared to \$4.3 million in the second quarter of 2018 and \$4.4 million in the third quarter of 2017. Electronic banking fees were \$13.1 million in the nine months ended September 30, 2018, compared to \$18.7 million in the nine months ended September 30, 2017. Electronic banking fees decreased \$5.6 million in the nine months ended September 30, 2018, compared to the nine months ended September 30, 2017, 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, other loan sales and the change in fair value in loan servicing rights. MBR was \$9.8 million in the third quarter of 2018, compared to \$8.8 million in the second quarter of 2018 and \$5.2 million in the third quarter of 2017. MBR increased \$1.0 million, or 11.2%, compared to the second quarter of 2018, and increased \$4.6 million, compared to the third quarter of 2017. The increase in MBR in the third quarter of 2018, compared to both the second quarter of 2018 and the third quarter of 2017, was primarily due to the change in the impact to earnings from the change in fair value in loan servicing rights, which was a benefit of \$0.9 million in the third quarter of 2018, compared to a detriment of \$30 thousand in the second quarter of 2018 and a detriment of \$4.0 million in the third quarter of 2017. MBR was \$31.2 million in the nine months ended September 30, 2018, an increase of \$6.9 million, compared to \$24.3 million in the nine months ended September 30, 2017, primarily due to the change in the impact to earnings from the change in fair value in loan servicing rights, partially offset by a decline in net gain on sale of loans. At September 30, 2018, we were servicing \$6.91 billion of residential mortgage loans that were originated in our market areas and subsequently sold in the secondary market, compared to \$7.11 billion at December 31, 2017 and \$7.14 billion at September 30, 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 \$4.3 million at September 30, 2018, compared to \$5.3 million at December 31, 2017 and \$5.4 million at September 30, 2017.

All other categories of noninterest income, including other fees for customer services, insurance commissions, gain on sale of investment securities, bank-owned life insurance, rental income and other noninterest income, totaled \$9.1 million in both the third quarter of 2018 and the second quarter of 2018, compared to \$7.2 million in the third quarter of 2017. All other categories of noninterest income totaled \$27.4 million in the nine months ended September 30, 2018, compared to \$23.9 million in the nine months ended September 30, 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.

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Operating Expenses

The following table presents the major categories of operating expenses:

(Dollars in thousands)	Three Months Ended			Nine Months Ended		
	September 30, 2018	June 30, 2018	September 30, 2017	September 30, 2018	September 30, 2017	
Operating expense						
Salaries and wages ⁽¹⁾	\$49,182	\$47,810	\$44,641	\$142,636	\$138,126	
Employee benefits ⁽¹⁾	7,712	8,338	7,949	25,963	26,605	
Occupancy	8,620	7,679	6,871	24,310	23,008	
Equipment and software	8,185	8,276	7,582	24,120	24,248	
Outside processing and service fees	12,660	10,673	9,626	33,689	26,061	
FDIC insurance premiums ⁽²⁾	4,823	4,473	2,768	14,925	6,634	
Professional fees ⁽²⁾	3,399	3,004	3,489	8,861	8,024	
Intangible asset amortization ⁽²⁾	1,426	1,425	1,526	4,290	4,564	
Advertising and marketing ⁽²⁾	1,580	2,933	980	5,888	5,103	
Postage and express mail ⁽²⁾	1,315	1,354	1,221	3,857	4,258	
Training, travel and other employee expenses ⁽²⁾	1,697	1,497	1,537	4,411	4,946	
Telephone ⁽²⁾	899	864	907	2,611	2,933	
Supplies ⁽²⁾	404	379	575	1,362	2,035	
Donations ⁽²⁾	815	777	515	1,878	1,723	
Credit-related expenses ⁽²⁾	1,239	1,467	1,874	4,012	4,969	
Merger and restructuring expenses ⁽³⁾	—	—	21,203	—	25,835	
Impairment of income tax credit ⁽²⁾⁽³⁾	3,162	1,716	3,095	6,512	3,095	
Other ⁽²⁾	2,543	1,896	3,180	6,507	9,805	
Total operating expenses	\$109,661	\$104,561	\$119,539	\$315,832	\$321,972	
Significant and other non-core items ⁽³⁾	3,162	1,716	24,298	6,512	28,930	
Operating expenses, core (non-GAAP) ⁽³⁾⁽⁴⁾	\$106,499	\$102,845	\$95,241	\$309,320	\$293,042	
Full-time equivalent staff (at period end)	3,067	3,187	3,113	3,067	3,113	
Average assets	\$20,501,223	\$19,850,993	\$18,858,148	\$19,946,039	\$18,204,024	
Efficiency ratio - GAAP	55.6	% 53.5	% 68.0	% 54.0	% 61.5	%
Efficiency ratio - adjusted non-GAAP ⁽⁴⁾	52.8	% 51.2	% 51.2	% 51.9	% 53.5	%
Total operating expenses as a percentage of total average assets (annualized)	2.1	% 2.1	% 2.5	% 2.1	% 2.4	%
Total operating expenses as a percentage of total average assets - adjusted non-GAAP ⁽⁴⁾ (annualized)	2.1	% 2.1	% 2.0	% 2.1	% 2.1	%

(1) Included within the line item "Salaries, wages and employee benefits" in the Consolidated Statements of Income.

(2) Included within the line item "Other" operating expenses in the Consolidated Statements of Income.

(3) Significant items are defined as merger and restructuring expenses during the three and nine months ended September 30, 2017. The non-core items include the impairment of income tax credits.

(4) 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 \$109.7 million in the third quarter of 2018, compared to \$104.6 million in the second quarter of 2018 and \$119.5 million in the third quarter of 2017. Operating expenses included \$3.2 million, \$1.7 million and \$3.1 million of impairment related to federal historic income tax credits in the third quarter of 2018, second quarter of 2018 and third quarter of 2017, respectively, and \$21.2 million of merger and restructuring expenses in the third quarter of 2017, each noted as "significant" or "other non-core" items for the applicable periods. Operating expenses, core, a non-GAAP financial measure that excludes these significant and other non-core items for each applicable period, were \$106.5 million in the third quarter of 2018, an increase of \$3.7 million, or 3.6%, compared to core operating expenses of \$102.8 million in the second quarter of 2018, and an increase of \$11.3 million, or 11.8%, compared to core operating expenses of \$95.2 million in the third quarter of 2017. The increase in core operating expense in the third quarter of 2018, compared to the second quarter of 2018, was primarily due to increases in outside processing and service fees of \$2.0 million, salaries and wages of \$1.4 million and occupancy expense of \$0.9

million, partially offset by a reduction in advertising and marketing expense of \$1.3 million. The increase in core operating expense in the third quarter of 2018, compared to the third quarter of 2017, was primarily due to increases in salaries and wages of \$4.5 million, outside processing and service fees of \$3.0 million, FDIC insurance premiums of \$2.0 million and occupancy expense of \$1.7 million.

Total operating expenses were \$315.8 million in the nine months ended September 30, 2018, compared to \$322.0 million in the nine months ended September 30, 2017. Operating expenses included \$6.5 million and \$4.5 million of impairment related to federal historic income tax credits in the nine months ended September 30, 2018 and 2017, respectively and \$25.8 million of merger and restructuring expenses in the nine months ended September 30, 2017 noted as "significant" or "other non-core" items for the applicable periods. Operating expenses, core, a non-GAAP financial measure, which excludes these significant and non-core items, was \$309.3 million in the nine months ended September 30, 2018, an increase of \$16.3 million, or 5.6%, compared to core operating expense of \$293.0 million in the nine months ended September 30, 2017, primarily due to increases in FDIC insurance expense of \$8.3 million, outside processing and service fees of \$7.6 million and salaries and wages of \$4.5 million.

Salaries and wages were \$49.2 million in the third quarter of 2018, compared to \$47.8 million in the second quarter of 2018 and \$44.6 million in the third quarter of 2017. Salaries and wages increased \$1.4 million, or 2.9%, in the third quarter of 2018, compared to the second quarter of 2018 and increased \$4.6 million, or 10.2%, in the third quarter of 2018, compared to the third quarter of 2017. The increase in the third quarter of 2018, compared to both the second quarter of 2018 and the third quarter of 2017 was largely due to an increase in bonus and incentive compensation mostly resulting from our recent hires and additional expense related to the implementation of upgrades to our core operating systems. Salaries and wages were \$142.6 million in the nine months ended September 30, 2018, an increase of \$4.5 million, compared to \$138.1 million during the nine months ended September 30, 2017. Salary and wage expense related to the implementation of upgrades to our core operating systems was \$0.7 million in the third quarter of 2018, \$0.5 million in the second quarter of 2018 and \$1.2 million in the nine months ended September 30, 2018.

Employee benefits expense was \$7.7 million in the third quarter of 2018, compared to \$8.3 million in the second quarter of 2018 and \$7.9 million in the third quarter of 2017. Employee benefits expense decreased \$0.6 million, or 7.5%, in the third quarter of 2018, compared to the second quarter of 2018, primarily due to a decrease in payroll taxes and 401(k) contribution expense due to certain employees meeting withholding thresholds. Employee benefits expense decreased \$0.2 million, or 3.0%, in the third quarter of 2018, compared to the third quarter of 2017, due primarily to a decrease in 401(k) contribution expense as a result of certain employees meeting thresholds. Employee benefits expense was \$26.0 million in the nine months ended September 30, 2018, compared to \$26.6 million in the nine months ended September 30, 2017.

Compensation expenses, which include salaries and wages and employee benefits, as a percentage of total operating expenses were 51.9% in the third quarter of 2018, 53.7% in the second quarter of 2018, and 44.0% in the third quarter of 2017. Compensation expenses as a percentage of total operating expenses were 53.4% in the nine months ended September 30, 2018, compared to 51.2% in the nine months ended September 30, 2017.

Occupancy expense was \$8.6 million in the third quarter of 2018, compared to \$7.7 million in the second quarter of 2018 and \$6.9 million in the third quarter of 2017. Occupancy expense increased \$0.9 million, or 12.3%, in the third quarter of 2018, compared to the second quarter of 2018, and increased \$1.7 million, or 25.5%, in the third quarter of 2018, compared to the third quarter of 2017, primarily due to \$0.9 million of early lease termination expense resulting from the consolidation of office space housing our wealth management unit. Occupancy expense included depreciation expense on buildings of \$1.7 million in each of the third quarter of 2018, second quarter of 2018 and in the third quarter of 2017. Occupancy expense was \$24.3 million in the nine months ended September 30, 2018, compared to \$23.0 million in the nine months ended September 30, 2017.

Equipment and software expense was \$8.2 million in the third quarter of 2018, compared to \$8.3 million in the second quarter of 2018 and \$7.6 million in the third quarter of 2017. Equipment and software expense decreased \$0.1 million, or 1.1%, in the third quarter of 2018, compared to the second quarter of 2018, and increased \$0.6 million, or 8.0%, compared to the third quarter of 2017. The increase in the third quarter of 2018, compared to the third quarter of 2017 was primarily due to an increase in software maintenance expense. Equipment and software expense was \$24.1 million in the nine months ended September 30, 2018, compared to \$24.2 million in the nine months ended September 30, 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 \$12.7 million in the third quarter of 2018, compared to \$10.7 million in the second quarter of 2018 and \$9.6 million in the third quarter of 2017. Outside processing and service fees increased \$2.0 million, or 18.6%, in the third quarter of 2018, compared to the second quarter of 2018, and increased \$3.1 million, or 31.5%, compared to the third quarter of 2017. The increase in outside processing and service fees

in the third quarter of 2018, compared to both the second quarter of 2018 and the third quarter of 2017, was primarily due to increased ongoing operating costs associated with our enhanced technology platform implemented in the third quarter of 2018. Expenses specifically attributed to our core operating system conversion included within outside processing and service fees were \$1.5 million in the third quarter of 2018 and \$1.0 million in the second quarter of 2018. Outside processing and service fees were \$33.7 million in the nine months ended September 30, 2018, compared to \$26.1 million in the nine months ended September 30, 2017, which increased primarily due to core operating system conversion expenses and operating costs associated with the enhancement in our overall technology platform.

FDIC insurance premiums were \$4.8 million in the third quarter of 2018, compared to \$4.5 million in the second quarter of 2018 and \$2.8 million in the third quarter of 2017. FDIC insurance premiums increased \$0.3 million, or 7.8%, in the third quarter of 2018, compared to the second quarter of 2018, and increased \$2.0 million compared to the third quarter of 2017. FDIC insurance premiums were \$14.9 million in the nine months ended September 30, 2018, compared to \$6.6 million in the nine months ended September 30, 2017. Changes in our FDIC insurance premiums are primarily due to changes in our assessment base, which consists of average consolidated total assets less average Tier 1 capital.

Professional fees were \$3.4 million in the third quarter of 2018, compared to \$3.0 million in the second quarter of 2018 and \$3.5 million in the third quarter of 2017. Professional fees increased \$0.4 million, or 13.1%, in the third quarter of 2018, compared to the second quarter of 2018, and decreased \$0.1 million compared to the third quarter of 2017. Professional fees were \$8.9 million in the nine months ended September 30, 2018, compared to \$8.0 million in the nine months ended September 30, 2017, which increased primarily due to core operating system conversion expenses. Core operating system conversion expenses included in professional fees were \$0.5 million in the third quarter of 2018, \$94 thousand in the second quarter of 2018 and \$0.7 million in the nine months ended September 30, 2018.

Advertising and marketing expenses were \$1.6 million in the third quarter of 2018, compared to \$2.9 million in the second quarter of 2018 and \$1.0 million in the third quarter of 2017. Advertising and marketing expense decreased \$1.3 million, in the third quarter of 2018, compared to the second quarter of 2018, and increased \$0.6 million compared to the third quarter of 2017. The shifts in advertising and marketing expenses in the third quarter of 2018, compared to both the second quarter of 2018 and third quarter of 2017, were primarily attributable to communication and marketing expenses related to the conversion of our core operating systems. Advertising and marketing expenses were \$5.9 million in the nine months ended September 30, 2018, compared to \$5.1 million in the nine months ended September 30, 2017, which increased primarily due to the communication and marketing expenses related to the conversion of our core operating systems.

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 \$1.2 million in the third quarter of 2018, compared to \$1.5 million in the second quarter of 2018 and \$1.9 million in the third quarter of 2017. We recognized net gains from the sales of ORE properties of \$0.2 million in the third quarter of 2018, \$23 thousand in the second quarter of 2018 and \$0.4 million in the third quarter of 2017. Credit-related expenses were \$4.0 million in the nine months ended September 30, 2018, compared to \$5.0 million in the nine months ended September 30, 2017, which decreased primarily due to a reduction in our ORE assets.

All other categories of operating expenses not discussed above totaled \$12.3 million in the third quarter of 2018, compared to \$9.9 million in the second quarter of 2018, and \$33.8 million in the third quarter of 2017. All other categories of operating expenses increased \$2.4 million, or 23.7%, in the third quarter of 2018, compared to the

second quarter of 2018, primarily due to an increase in impairment of income tax credits. All other categories of operating expenses in the third quarter of 2018 decreased \$21.5 million, compared to the third quarter of 2017, primarily due to the merger and restructuring expenses recognized in the third quarter of 2017. All other categories of operating expenses totaled \$31.4 million in the nine months ended September 30, 2018, compared to \$59.2 million in the nine months ended September 30, 2017, with the decrease primarily due to the merger and restructuring expenses recognized in the nine months ended September 30, 2017, partially offset by expenses related to the conversion of our core operating systems recognized in the nine months ended September 30, 2018. All other operating expense categories included costs related to the conversion of our core operating systems of \$0.3 million in both the third quarter of 2018 and in the second quarter of 2018 and \$0.7 million in the nine months ended September 30, 2018.

Our efficiency ratio, which measures total operating expenses divided by the sum of net interest income plus noninterest income, was 55.6% in the third quarter of 2018, compared to 53.5% in the second quarter of 2018 and 68.0% in the third quarter of 2017. Our adjusted efficiency ratio, a non-GAAP financial measure, that excludes merger and 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 gain from sale of investment securities, as applicable, was 52.8% in the third quarter of 2018, compared to 51.2%

in the second quarter of 2018, and 51.2% in the third quarter of 2017. Our efficiency ratio was 54.0% in the nine months ended September 30, 2018, compared to 61.5% in the nine months ended September 30, 2017. Our adjusted efficiency ratio, a non-GAAP financial measure, was 51.9% in the nine months ended September 30, 2018, compared to 53.5% in the nine months ended September 30, 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:

	Three Months Ended		September 30,		September 30,		September 30,		September 30,	
	September 30, 2018	September 30, 2017	September 30, 2018	September 30, 2017	September 30, 2018	September 30, 2017	September 30, 2018	September 30, 2017	September 30, 2018	September 30, 2017
(Dollars in thousands)	Amount	Rate	Amount	Rate	Amount	Rate	Amount	Rate	Amount	Rate
Tax at statutory rate	\$17,159	21.0 %	\$17,749	35.0 %	\$52,013	21.0 %	\$64,968	35.0 %		
Changes resulting from:										
Tax-exempt interest income	(1,646)	(2.0)	(3,033)	(6.0)	(4,760)	(1.9)	(6,622)	(3.6)		
State taxes, net of federal benefit	103	0.1	(336)	(0.7)	313	0.1	134	0.2		
Change in valuation allowance	(384)	(0.5)	11	—	(456)	(0.2)	60	—		
Bank-owned life insurance adjustments	(245)	(0.3)	(344)	(0.7)	(782)	(0.3)	(1,023)	(0.6)		
Income tax credits, net	(4,077)	(5.0)	(3,941)	(7.7)	(9,178)	(3.7)	(5,738)	(3.1)		
Nondeductible transaction expenses	—	—	328	0.6	—	—	328	0.2		
Tax detriment (benefit) in excess of compensation costs on share-based payments ⁽¹⁾	(98)	(0.1)	511	1.0	(1,863)	(0.8)	(5,871)	(3.2)		
Other, net	500	0.6	(692)	(1.3)	1,414	0.6	(690)	(0.4)		
Income tax expense	\$11,312	13.8 %	\$10,253	20.2 %	\$36,701	14.8 %	\$45,546	24.5 %		

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

Our effective federal income tax rate was 13.8% in the third quarter of 2018, compared to 15.3% in the second quarter of 2018, and 20.2% in the third quarter of 2017. Our tax rate for the periods during 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. In addition, we received income tax benefits related to federal historic tax credits of \$3.2 million, \$1.9 million and \$2.3 million in the third quarter of 2018, the second quarter of 2018 and the third quarter of 2017, respectively. We had no uncertain tax positions during the three months ended September 30, 2018 and September 30, 2017.

Our effective federal income tax rate was 14.8% for the nine months ended September 30, 2018, compared to 24.5% for the nine months ended September 30, 2017. The decrease in our effective federal income tax rate in the nine months ended September 30, 2018, compared to the nine months ended September 30, 2017, was primarily due to the benefit from the enactment of the Tax Cuts and Jobs Act which reduced the federal corporate tax rate to 21% effective January 1, 2018, and \$6.6 million of benefit from federal historic tax credits recorded during the nine months ended September 30, 2018, partially offset by the benefit from stock option exercises that occurred in the nine months ended

September 30, 2017. We had no uncertain tax positions during the nine months ended September 30, 2018 and 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 to be recognized and recorded in the interim period in which the law was 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 \$1.80 billion during the nine months ended September 30, 2018. Our loan-to-deposit plus collateralized customer deposits ratio was 93.5% at September 30, 2018 and 100.7% at December 31, 2017. We had \$281.8 million of cash deposits held at the FRB at September 30, 2018, compared to \$143.7 million at December 31, 2017. At September 30, 2018, we had unpledged investment securities available-for-sale with an amortized cost of \$1.7 billion 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 \$2.1 billion at September 30, 2018. Our additional borrowing availability from the FHLB, subject to certain requirements, was \$547.9 million at September 30, 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 September 30, 2018, we maintain an unused borrowing capacity of \$94.0 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 September 30, 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 nine months ended September 30, 2018, Chemical Bank paid \$84.3 million in dividends to us, and we paid cash dividends to shareholders of \$64.6 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 \$218.2 million during the nine months ended September 30, 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.

	September 30, 2018		December 31, 2017	
Investment securities available-for-sale to total deposits	17.7	%	14.4	%
Loans to total deposits ⁽¹⁾	93.5		100.7	
Interest-earning assets to total assets	90.0		89.5	
Interest-bearing deposits to total deposits	74.0		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 our profitability, 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 September 30, 2018 and December 31, 2017, we projected the change in net interest income during the next twelve months assuming short-term market interest rates to uniformly and gradually increase or decrease by 100 and 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 300 and 400 basis point increase in market interest rates at September 30, 2018 and December 31, 2017. We did not project a 300 or 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 September 30, 2018 and December 31, 2017 follows:

	Gradual Change	Immediate Change
September 30, 2018		

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Twelve month interest rate change projection (in basis points)	-200	-100	0	+100	+200	+300	+400
Percent change in net interest income vs. constant rates	(2.3)%	(0.3)%	%	(0.2)%	(0.2)%	1.2 %	1.8 %
December 31, 2017							
Twelve month interest rate change projection (in basis points)	-200	-100	0	+100	+200	+300	+400
Percent change in net interest income vs. constant rates	(3.6)%	(1.2)%	%	0.9 %	(2.1)%	(3.6)%	(4.2)%

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At September 30, 2018, our model simulations projected that a 100, 200 basis point increases in interest rates would result in negative variances in net interest income of 0.2%, relative to the base case over the next twelve-month period, whereas a 300 or 400 basis point increase would result in positive variance in net income of 1.2% and 1.8%, respectively, relative to the based case over the next twelve-month period. At September 30, 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 0.3% and 2.3%, 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 September 30, 2018 was considered to be unlikely given prevailing interest rate levels.

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. 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.

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.

In the third quarter of 2018, we completed substantial upgrades to our core operating systems, which we use to accumulate financial data used in our financial reporting. We implemented this upgrade to help prepare us for future growth, to strengthen regulatory compliance and to enhance customer satisfaction. We utilized our upgraded system to generate financial statements for our quarter ended September 30, 2018. The upgrade was not made in response to any deficiency in our internal controls. Other than the upgrades to our core operating systems, there was no change in the Corporation's internal control over financial reporting that occurred during the quarter ended September 30, 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. On May 11, 2018, the Court issued its opinion and order granting the motion of the Defendants, and dismissing the case. On May 25, 2018, the plaintiffs filed a claim of appeal from the Court's decision with the Michigan Court of Appeals. By order dated August 7, 2018, the Michigan Court of Appeals consolidated the City of Livonia case with the Nicholl case discussed below.

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 June 29, 2018, the Court issued an Order Lifting Stay. The plaintiff filed an amended complaint on July 27, 2018. In response to the amended complaint, the Defendants filed a Motion To Dismiss on August 24, 2018. A ruling on the Defendant's motion 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 was 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 with the Michigan Court of Appeals from the Court's April 2, 2018 opinion and order.

As in the City of Livonia case, the Defendants 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. On May 8, 2018 the Court issued its opinion and order granting the motion of the Defendants, and dismissing the Nicholl case. On May 25, 2018 the plaintiffs filed a claim of appeal from the Court's decision with the Michigan Court of Appeals. The Court's dismissal of the Nicholl case obviates the April 23, 2018 appeal filed by the Nicholl plaintiff with respect to the Court's order of April 2, 2018 finding that the plaintiff failed to timely certify a class in the Nicholl litigation. By order dated August 7, 2018, the Michigan Court of Appeals consolidated the Nicholl case with the City of Livonia case.

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 did not rule on that motion, pending ruling on the Defendant's summary disposition motions in the City of Livonia and Nicholl cases. The Court's dismissal of the City of Livonia case obviates the need for a ruling on this motion.

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 September 30, 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 Yet Be Purchased Under Plans or Programs
July 31, 2018	557	\$ 56.85	—	500,000
August 31, 2018	612	57.98	—	500,000
September 30, 2018	1,541	54.63	—	500,000
Total	2,710	\$ 55.84	—	

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.
- 10.1 Employment Agreement between Thomas C. Shafer, Chemical Financial Corporation and Chemical Bank, dated July 1, 2018. Previously filed as Exhibit 10.1 to the registrant's Current Report on Form 8-K filed with the SEC on July 3, 2018. Here incorporated by reference.
- 10.2 Employment Agreement between Dennis L. Klaeser, Chemical Financial Corporation and Chemical Bank, dated July 1, 2018. Previously filed as Exhibit 10.2 to the registrant's Current Report on Form 8-K filed with the SEC on July 3, 2018. 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: November 8, 2018 By: /s/ David T. Provost
David T. Provost
Chief Executive Officer and President
(Principal Executive Officer)

Date: November 8, 2018 By: /s/ Dennis L. Klaeser
Dennis L. Klaeser
Executive Vice President and Chief Financial Officer
(Principal Financial Officer)

Date: November 8, 2018 By: /s/ Kathleen S. Wendt
Kathleen S. Wendt
Executive Vice President and Deputy Chief Financial Officer
(Principal Accounting Officer)

Exhibit Index

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