

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

(Mark One)

- QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the quarterly period ended March 31, 2019
- TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the transition period from _____ to _____

Commission file number: 001-31343

Associated Banc-Corp

(Exact name of registrant as specified in its charter)

Wisconsin

(State or other jurisdiction of
incorporation or organization)

**433 Main Street
Green Bay, Wisconsin**

(Address of principal executive offices)

39-1098068

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

54301

(Zip Code)

(920) 491-7500

(Registrant's telephone number, including area code)

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

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted 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 such files).

Yes No

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

Large accelerated filer

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

APPLICABLE ONLY TO CORPORATE ISSUERS:

The number of shares outstanding of registrant's common stock, par value \$0.01 per share, at April 26, 2019 was 163,903,692.

ASSOCIATED BANC-CORP
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Commonly Used Acronyms and Abbreviations

The following listing provides a reference of common acronyms and abbreviations used throughout the document:

ABS	Asset-Backed Securities
ALCO	Asset / Liability Committee
Anderson	Anderson Insurance and Investment Agency, Inc.
ASC	Accounting Standards Codification
ASU	Accounting Standards Update
Bank Mutual	Bank Mutual Corporation
Basel III	International framework established by the Basel Committee on Banking Supervision for the regulation of capital and liquidity
bp	basis point(s)
CDI	Core Deposit Intangibles
CET1	Common Equity Tier 1
CMO	Collateralized Mortgage Obligations
CRA	Community Reinvestment Act
Diversified	Diversified Insurance Solutions
EAR	Earnings at Risk
FASB	Financial Accounting Standards Board
FDIC	Federal Deposit Insurance Corporation
FFELP	Federal Family Education Loan Program
FHLB	Federal Home Loan Bank
FHLMC	Federal Home Loan Mortgage Corporation
FNMA	Federal National Mortgage Association
FTP	Funds Transfer Pricing
GAAP	Generally Accepted Accounting Principles
GNMA	Government National Mortgage Association
GSEs	Government-Sponsored Enterprises
Huntington	The Huntington National Bank, a subsidiary of Huntington Bancshares Incorporated
LIBOR	London Interbank Offered Rate
LTV	Loan-to-Value
MBS	Mortgage-Backed Securities
MSR	Mortgage Servicing Rights
MVE	Market Value of Equity
NII	Net Interest Income
NPAs	Nonperforming Assets
OCI	Other Comprehensive Income
OREO	Other Real Estate Owned
RAP	Retirement Account Plan - the Corporation's noncontributory defined benefit retirement plan
S&P	Standard & Poor's
SEC	U.S. Securities and Exchange Commission
Tax Act	U.S. Tax Cuts and Jobs Act of 2017

PART I - FINANCIAL INFORMATION
ITEM 1. Financial Statements:
**ASSOCIATED BANC-CORP
Consolidated Balance Sheets**

	March 31, 2019 (Unaudited)	December 31, 2018 (Audited)
	(In Thousands, except share and per share data)	
Assets		
Cash and due from banks	\$ 334,095	\$ 507,187
Interest-bearing deposits in other financial institutions	270,843	221,226
Federal funds sold and securities purchased under agreements to resell	41,405	148,285
Investment securities held to maturity, at amortized cost	2,846,689	2,740,511
Investment securities available for sale, at fair value	3,829,388	3,946,941
Equity securities with readily determinable fair values	1,609	1,568
Federal Home Loan Bank and Federal Reserve Bank stocks, at cost	216,940	250,534
Residential loans held for sale	81,392	64,321
Commercial loans held for sale	15,467	14,943
Loans	23,148,359	22,940,429
Allowance for loan losses	(235,081)	(238,023)
Loans, net	22,913,278	22,702,406
Bank and corporate owned life insurance	665,976	663,203
Investment in unconsolidated subsidiaries	194,670	161,181
Trading assets	77,920	88,943
Premises and equipment, net	361,668	363,225
Goodwill	1,168,944	1,169,023
Mortgage servicing rights, net	66,626	68,193
Other intangible assets, net	73,610	75,836
Other assets	540,346	460,331
Total assets	<u>\$ 33,700,866</u>	<u>\$ 33,647,859</u>
Liabilities and Stockholders' Equity		
Noninterest-bearing demand deposits	\$ 5,334,154	\$ 5,698,530
Interest-bearing deposits	20,198,903	19,198,863
Total deposits	25,533,057	24,897,393
Federal funds purchased and securities sold under agreements to repurchase	127,098	111,651
Commercial paper	32,019	45,423
FHLB advances	2,944,769	3,574,371
Other long-term funding	796,007	795,611
Trading liabilities	77,859	87,668
Accrued expenses and other liabilities	354,188	354,855
Total liabilities	29,864,996	29,866,971
Stockholders' Equity		
Preferred equity	256,716	256,716
Common equity		
Common stock	1,752	1,752
Surplus	1,689,792	1,712,615
Retained earnings	2,235,824	2,181,414
Accumulated other comprehensive income (loss)	(103,375)	(124,972)
Treasury stock, at cost	(244,840)	(246,638)
Total common equity	3,579,153	3,524,171
Total stockholders' equity	3,835,870	3,780,888
Total liabilities and stockholders' equity	<u>\$ 33,700,866</u>	<u>\$ 33,647,859</u>
Preferred shares issued	264,458	264,458
Preferred shares authorized (par value \$1.00 per share)	750,000	750,000
Common shares issued	175,216,409	175,216,409
Common shares authorized (par value \$0.01 per share)	250,000,000	250,000,000
Treasury shares of common stock	10,798,082	10,775,938

Numbers may not sum due to rounding.

See accompanying notes to consolidated financial statements.

Item 1. Financial Statements Continued:

ASSOCIATED BANC-CORP
Consolidated Statements of Income (Unaudited)

	Three Months Ended March 31,	
	2019	2018
(In Thousands, except per share data)		
Interest income		
Interest and fees on loans	\$ 258,853	\$ 220,034
Interest and dividends on investment securities		
Taxable	29,053	30,104
Tax-exempt	13,816	9,217
Other interest	4,226	2,177
Total interest income	305,948	261,532
Interest expense		
Interest on deposits	62,773	33,412
Interest on Federal funds purchased and securities sold under agreements to repurchase	627	522
Interest on other short-term funding	51	60
Interest on FHLB advances	19,554	13,123
Interest on long-term funding	7,396	4,544
Total interest expense	90,401	51,661
Net interest income	215,547	209,871
Provision for credit losses	6,000	—
Net interest income after provision for credit losses	209,547	209,871
Noninterest income		
Insurance commissions and fees	25,464	22,648
Wealth management fees ^(a)	20,180	20,642
Service charges on deposit account fees	15,115	16,420
Card-based fees	9,261	9,442
Other fee-based revenue	3,983	3,980
Capital markets, net	3,189	5,306
Mortgage banking, net	4,712	6,370
Bank and corporate owned life insurance	3,792	3,187
Asset gains (losses), net	567	(107)
Investment securities gains (losses), net	1,680	—
Other	3,260	2,492
Total noninterest income	91,202	90,380
Noninterest expense		
Personnel	120,050	117,685
Technology	19,012	17,715
Occupancy	16,472	15,357
Business development and advertising	6,636	6,693
Equipment	5,668	5,556
Legal and professional	3,951	5,413
Card issuance costs	977	2,332
Loan costs	1,364	972
Foreclosure / OREO expense, net	567	723
FDIC assessment	3,750	8,250
Other intangible amortization	2,226	1,525
Acquisition related costs ^(b)	632	20,605
Other	10,366	10,140
Total noninterest expense	191,671	212,965
Income before income taxes	109,078	87,285
Income tax expense	22,392	17,829
Net income	86,686	69,456
Preferred stock dividends	3,801	2,339
Net income available to common equity	\$ 82,885	\$ 67,117
Earnings per common share		
Basic	\$ 0.50	\$ 0.41
Diluted	\$ 0.50	\$ 0.40
Average common shares outstanding		
Basic	163,928	163,520
Diluted	165,433	166,432

Numbers may not sum due to rounding.

(a) Includes trust, asset management, brokerage, and annuity fees.

(b) Includes Huntington branch and Bank Mutual acquisition related costs only.

See accompanying notes to consolidated financial statements.

Item 1. Financial Statements Continued:

ASSOCIATED BANC-CORP
Consolidated Statements of Comprehensive Income (Unaudited)

	Three Months Ended March 31,	
	2019	2018
	(\$ in Thousands)	
Net income	\$ 86,686	\$ 69,456
Other comprehensive income, net of tax		
Investment securities available for sale		
Net unrealized gains (losses)	30,490	(41,834)
Amortization of net unrealized gain (loss) on available for sale securities transferred to held to maturity securities	69	(297)
Reclassification adjustment for net losses (gains) realized in net income ^(a)	(1,680)	—
Reclassification from OCI due to change in accounting principle	—	(84)
Reclassification of certain tax effects from OCI	—	(8,419)
Income tax (expense) benefit	(7,301)	10,635
Other comprehensive income (loss) on investment securities available for sale	21,578	(40,000)
Defined benefit pension and postretirement obligations		
Amortization of prior service cost	(38)	(38)
Amortization of actuarial loss (gain)	64	465
Reclassification of certain tax effects from OCI	—	(5,235)
Income tax (expense) benefit	(7)	(107)
Other comprehensive income (loss) on pension and postretirement obligations	20	(4,915)
Total other comprehensive income (loss)	21,597	(44,915)
Comprehensive income	<u>\$ 108,283</u>	<u>\$ 24,541</u>

Numbers may not sum due to rounding.

(a) Includes only available for sale securities.

See accompanying notes to consolidated financial statements.

Item 1. Financial Statements Continued:

ASSOCIATED BANC-CORP
Consolidated Statements of Changes in Stockholders' Equity (Unaudited)

	Preferred Equity	Common Stock	Surplus	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Treasury Stock	Total
(In Thousands, except per share data)							
Balance, December 31, 2017	\$ 159,929	\$ 1,618	\$ 1,338,722	\$ 1,934,696	\$ (62,758)	\$ (134,764)	\$ 3,237,443
Comprehensive income							
Net income	—	—	—	69,456	—	—	69,456
Other comprehensive income	—	—	—	—	(31,177)	—	(31,177)
Adoption of new accounting standards	—	—	—	—	(13,738)	—	(13,738)
Comprehensive income							24,541
Common stock issued							
Stock-based compensation plans, net ^(a)	—	—	(7,665)	20,136	—	(1,780)	10,691
Acquisition of Bank Mutual	—	134	390,258	—	—	91,296	481,688
Purchase of common stock returned to authorized but unissued	—	(11)	(26,469)	—	—	—	(26,480)
Purchase of treasury stock	—	—	—	—	—	(5,240)	(5,240)
Cash dividends							
Common stock, \$0.15 per share	—	—	—	(25,710)	—	—	(25,710)
Preferred stock	—	—	—	(2,339)	—	—	(2,339)
Purchase of preferred stock	(76)	—	—	(2)	—	—	(78)
Stock-based compensation expense, net	—	—	3,675	—	—	—	3,675
Tax Act reclassification	—	—	—	13,654	—	—	13,654
Change in accounting principle	—	—	—	84	—	—	84
Other	—	—	—	771	—	—	771
Balance, March 31, 2018	\$ 159,853	\$ 1,741	\$ 1,698,521	\$ 2,010,746	\$ (107,673)	\$ (50,488)	\$ 3,712,699
Balance, December 31, 2018	\$ 256,716	\$ 1,752	\$ 1,712,615	\$ 2,181,414	\$ (124,972)	\$ (246,638)	\$ 3,780,888
Comprehensive income							
Net income	—	—	—	86,686	—	—	86,686
Other comprehensive income	—	—	—	—	21,597	—	21,597
Comprehensive income							108,283
Common stock issued							
Stock-based compensation plans, net	—	—	(32,220)	—	—	39,265	7,045
Purchase of treasury stock	—	—	—	—	—	(37,467)	(37,467)
Cash dividends							
Common stock, \$0.17 per share	—	—	—	(28,183)	—	—	(28,183)
Preferred stock	—	—	—	(3,801)	—	—	(3,801)
Stock-based compensation expense, net	—	—	9,397	—	—	—	9,397
Other	—	—	—	(293)	—	—	(293)
Balance, March 31, 2019	\$ 256,716	\$ 1,752	\$ 1,689,792	\$ 2,235,824	\$ (103,375)	\$ (244,840)	\$ 3,835,870

Numbers may not sum due to rounding.

(a) As previously disclosed in Associated Banc-Corp's 2018 Annual Report on Form 10-K, an adjustment was made to the March 31, 2018 stockholders' equity balances related to the grant and vesting of options, restricted stock awards, and restricted stock units awarded. This adjustment increased Retained Earnings by \$36 million, decreased Surplus \$10 million, and increased Treasury Stock \$26 million. The reclassification had no impact on earnings, expenses, or total stockholders' equity.

See accompanying notes to consolidated financial statements.

Item 1. Financial Statements Continued:

ASSOCIATED BANC-CORP
Consolidated Statements of Cash Flows (Unaudited)

	Three Months Ended March 31,	
	2019	2018
	(\$ in Thousands)	
Cash Flow From Operating Activities		
Net income	\$ 86,686	\$ 69,456
Adjustments to reconcile net income to net cash provided by operating activities		
Provision for credit losses	6,000	—
Depreciation and amortization	14,358	12,208
Addition to (recovery of) valuation allowance on mortgage servicing rights, net	121	(474)
Amortization of mortgage servicing rights	2,693	2,324
Amortization of other intangible assets	2,226	1,525
Amortization and accretion on earning assets, funding, and other, net	6,571	2,192
Net amortization of tax credit investments	5,637	4,881
Losses (gains) on sales of investment securities, net	(1,680)	—
Asset (gains) losses, net	(567)	107
(Gain) loss on mortgage banking activities, net	(3,174)	624
Mortgage loans originated and acquired for sale	(162,521)	(197,603)
Proceeds from sales of mortgage loans held for sale	159,842	187,624
Changes in certain assets and liabilities		
(Increase) decrease in interest receivable	(12,068)	(12,859)
Increase (decrease) in interest payable	(1,516)	1,206
Increase (decrease) in expense payable	(51,247)	(6,987)
Increase (decrease) in cash collateral	(41,422)	(11,085)
Net change in other assets and other liabilities	(23,541)	(10,046)
Net cash provided by (used in) operating activities	(13,602)	43,093
Cash Flow From Investing Activities		
Net increase in loans	(216,817)	(160,921)
Purchases of		
Available for sale securities	(120,282)	(646,444)
Held to maturity securities	(140,670)	(208,517)
Federal Home Loan Bank and Federal Reserve Bank stocks	(88,245)	(144,515)
Premises, equipment, and software, net of disposals	(13,368)	(9,892)
Proceeds from		
Sales of available for sale securities	131,122	452,867
Sale of Federal Home Loan Bank and Federal Reserve Bank stocks	121,839	96,656
Prepayments, calls, and maturities of available for sale investment securities	135,541	158,724
Prepayments, calls, and maturities of held to maturity investment securities	43,953	58,160
Sales, prepayments, calls, and maturities of other assets	3,179	1,182
Net change in tax credit and alternative investments	(18,772)	(7,240)
Net cash (paid) received in acquisition	—	59,605
Net cash used in investing activities	(162,518)	(350,336)
Cash Flow From Financing Activities		
Net increase (decrease) in deposits	635,664	(801,310)
Net increase (decrease) in short-term funding	2,043	(25,908)
Net increase (decrease) in short-term FHLB advances	(880,000)	1,150,777
Repayment of long-term FHLB advances	(169)	(250,000)
Proceeds from long-term FHLB advances	250,633	—
Proceeds from issuance of common stock for stock-based compensation plans	7,045	10,691
Purchase of preferred shares	—	(78)
Purchase of common stock returned to authorized but unissued	—	(26,480)
Purchase of treasury stock	(37,467)	(5,240)
Cash dividends on common stock	(28,183)	(25,710)
Cash dividends on preferred stock	(3,801)	(2,339)
Net cash provided by (used in) financing activities	(54,235)	24,403
Net increase (decrease) in cash, cash equivalents, and restricted cash	(230,355)	(282,840)
Cash, cash equivalents, and restricted cash at beginning of period	876,698	716,018
Cash, cash equivalents, and restricted cash at end of period	\$ 646,343	\$ 433,178
Supplemental disclosures of cash flow information		
Cash paid for interest	\$ 91,521	\$ 50,286
Cash paid for (received from) income and franchise taxes	(5,760)	926
Loans and bank premises transferred to other real estate owned	2,222	2,129
Capitalized mortgage servicing rights	1,247	9,873
Loans transferred into held for sale from portfolio, net	1,074	3,012
Unsettled trades to purchase securities	11,244	12,095
Acquisition		
Fair value of assets acquired, including cash and cash equivalents	—	2,567,123
Fair value ascribed to goodwill and intangible assets	(79)	242,576
Fair value of liabilities assumed	—	2,809,565
Equity issued in (adjustments related to) acquisition	(79)	134

Numbers may not sum due to rounding.

See accompanying notes to consolidated financial statements.

The following table provides a reconciliation of cash, cash equivalents, and restricted cash reported within the statement of financial position that sum to the total of the same sum amounts shown in the statement of cash flows:

	Three Months Ended March 31,	
	2019	2018
	(\$ in Thousands)	
Cash and cash equivalents	\$ 489,095	\$ 350,837
Restricted cash	157,248	82,341
Total cash, cash equivalents, and restricted cash shown in the statement of cash flows	\$ 646,343	\$ 433,178

Amounts included in restricted cash represent required reserve balances with the Federal Reserve Bank, included in cash and due from banks on the face of the consolidated balance sheets.

Item 1. Financial Statements Continued:

ASSOCIATED BANC-CORP
Notes to Consolidated Financial Statements

These interim consolidated financial statements have been prepared according to the rules and regulations of the SEC and, therefore, certain information and footnote disclosures normally presented in accordance with GAAP have been omitted or abbreviated. The information contained in the consolidated financial statements and footnotes in Associated Banc-Corp's 2018 Annual Report on Form 10-K, should be referred to in connection with the reading of these unaudited interim financial statements.

Note 1 Basis of Presentation

In the opinion of management, the accompanying unaudited consolidated financial statements contain all adjustments necessary to present fairly the financial position, results of operations and comprehensive income, changes in stockholders' equity, and cash flows of Associated Banc-Corp (individually referred to herein as the "Parent Company," and together with all of its subsidiaries and affiliates, collectively referred to herein as the "Corporation") for the periods presented, and all such adjustments are of a normal recurring nature. The consolidated financial statements include the accounts of all subsidiaries. All significant intercompany transactions and balances have been eliminated in consolidation. The results of operations for the interim periods are not necessarily indicative of the results to be expected for the full year.

In preparing the consolidated financial statements, management is required to make estimates and assumptions that affect the reported amounts of assets and liabilities as of the date of the consolidated balance sheets and revenues and expenses for the period. Actual results could differ significantly from those estimates. Estimates that are particularly susceptible to significant change include the determination of the allowance for loan losses, goodwill impairment assessment, mortgage servicing rights valuation, and income taxes. Management has evaluated subsequent events for potential recognition or disclosure.

Within the tables presented, certain columns and rows may not sum due to the use of rounded numbers for disclosure purposes.

Note 2 Acquisitions

Pending Branch Acquisition:

During the fourth quarter of 2018, the Corporation announced that Associated Bank had reached an agreement to acquire the Wisconsin branch banking operations of Huntington. Under the terms of the transaction, Associated Bank expects to acquire approximately \$850 million in deposits and \$134 million in loans. The Huntington branch acquisition will add a net 14 branches to our franchise. On February 15, 2019, the Corporation received regulatory approval for the acquisition. The transaction is subject to customary closing conditions, and is expected to close in June of 2019.

Note 3 Summary of Significant Accounting Policies

The accounting and reporting policies of the Corporation conform to U.S. generally accepted accounting principles and to general practice within the financial services industry. A discussion of these policies can be found in Note 1 Summary of Significant Accounting Policies included in the Corporation's 2018 Annual Report on Form 10-K. There has been one change to the Corporation's significant accounting policies since December 31, 2018, which is described below.

Leases

The Corporation determines if a lease is present at the inception of an agreement. Operating leases are capitalized at commencement and are discounted using the Corporation's FHLB borrowing rate for a similar term borrowing unless the lease defines an implicit rate within the contract. For operating leases existing prior to January 1, 2019, the rate for the remaining lease term as of January 1, 2019 was used.

Right-of-use assets represent the Corporation's right to use an underlying asset for the lease term and lease liabilities represent the obligation to make lease payments arising from the lease. Operating lease right-of-use assets and operating lease liabilities are recognized on the lease commencement date based on the present value of lease payments over the lease term. No significant judgments or assumptions were involved in developing the estimated operating lease liabilities as the Corporation's operating lease liabilities largely represent future rental expenses associated with operating leases and the borrowing rates are based on publicly available interest rates.

The lease term includes options to extend or terminate the lease. These options to extend or terminate are assessed on a lease-by-lease basis and adjustments are made to the right-of-use asset and lease liability if the Corporation is reasonably certain that an option will be exercised and will be expensed on a straight-line basis.

New Accounting Pronouncements Adopted

Standard	Description	Date of adoption	Effect on financial statements
ASU-2018-15 Intangibles-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	The FASB issued an amendment which aligns 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. The amendments in this Update require an entity (customer) in a hosting arrangement that is a service contract to follow the guidance in Subtopic 350-40 to determine which implementation costs to capitalize as an asset related to the service contract and which costs to expense. The amendments also require the entity (customer) to expense the capitalized implementation costs of a hosting arrangement that is a service contract over the term of the hosting arrangement. The amendment was effective for fiscal years beginning after December 15, 2019, and interim periods within those fiscal years. Entities should apply the amendment either retrospectively or prospectively to all implementation costs incurred after the date of adoption. Early adoption was permitted.	1st Quarter 2019	The Corporation elected to early adopt this amendment using the prospective approach. No material impact on results of operation, financial position or liquidity.
ASU 2018-09 Codification Improvements	The FASB issued an amendment which affects a wide variety of Topics in the Codification. The amendments apply to all reporting entities within the scope of the affected accounting guidance. The amendments in this Update represent changes to clarify, correct errors in, or make minor improvements to the Codification. The amendments make the Codification easier to understand and easier to apply by eliminating inconsistencies and providing clarifications. The transition and effective date guidance is based on the facts and circumstances of each amendment. Some of the amendments in this Update did not require transition guidance and were effective upon issuance of this Update. However, many of the amendments in this Update did have transition guidance with effective dates for annual periods beginning after December 15, 2018. There are some conforming amendments in this Update that have been made to recently issued guidance that is not yet effective that may require application of the transition and effective date guidance in the original Accounting Standards Update.	1st Quarter 2019	No material impact on results of operations, financial position and liquidity.
ASU 2016-02 Leases (Topic 842)	The FASB issued an amendment to provide transparency and comparability among organizations by recognizing lease assets and lease liabilities on the consolidated balance sheets and disclosing key information about leasing arrangements. This amendment will require lessees to recognize the following for all leases (with the exception of short-term leases) at the commencement date: 1) a lease liability, which is a lessee's obligation to make lease payments arising from a lease, measured on a discounted basis; and 2) a right-of-use asset, which is an asset that represents the lessee's right to use, or control the use of, a specified asset for the lease term. Under the new guidance, lessor accounting is largely unchanged. This amendment was effective for annual periods, and interim periods within those annual periods, beginning after December 15, 2018. Entities are required to recognize and measure leases at the beginning of the earliest period presented using a modified retrospective approach. The modified retrospective approach includes a number of optional practical expedients that entities may elect to apply. These practical expedients relate to the identification and classification of leases that commenced before the effective date, initial direct costs for leases that commenced before the effective date, and the ability to use hindsight in evaluating lessee options to extend or terminate a lease or to purchase the underlying asset. Early adoption was permitted. ASU 2018-01 permits an entity to elect an optional transition practical expedient to not evaluate under Topic 842 land easements that exist or expired before the entity's adoption of Topic 842. ASU 2018-10 was issued as improvements and clarifications of ASU 2016-02 were identified. This Update provides clarification on narrow aspects of the previously issued updates. ASU 2018-11 was issued to provide entities with an additional (and optional) transition method to adopt the new leases standard under ASU 2016-02. ASU 2019-01 was issued to assist in determining the fair value of underlying asset by lessors, address the presentation to the statements of cash flows, and clarify transition disclosures related to Topic 250.	1st Quarter 2019	The Corporation has adopted this amendment utilizing a modified retrospective approach. At adoption, a right-of-use asset and corresponding lease liability were recognized on the Consolidated Balance Sheets for \$52 million and \$56 million, respectively. See Note 18 for expanded disclosure requirements.

Note 4 Earnings Per Common Share

Earnings per common share are calculated utilizing the two-class method. Basic earnings per common share are calculated by dividing the sum of distributed earnings to common shareholders and undistributed earnings allocated to common shareholders by the weighted average number of common shares outstanding. Diluted earnings per common share are calculated by dividing the sum of distributed earnings to common shareholders and undistributed earnings allocated to common shareholders by the weighted average number of common shares outstanding adjusted for the dilutive effect of common stock awards (outstanding stock options and unvested restricted stock awards) and common stock warrants. Presented below are the calculations for basic and diluted earnings per common share:

	For the Three Months Ended March 31,	
	2019	2018
	(In Thousands, except per share data)	
Net income	\$ 86,686	\$ 69,456
Preferred stock dividends	(3,801)	(2,339)
Net income available to common equity	\$ 82,885	\$ 67,117
Common shareholder dividends	(28,080)	(25,572)
Unvested share-based payment awards	(103)	(138)
Undistributed earnings	\$ 54,702	\$ 41,407
Undistributed earnings allocated to common shareholders	54,410	41,225
Undistributed earnings allocated to unvested share-based payment awards	292	182
Undistributed earnings	\$ 54,702	\$ 41,407
Basic		
Distributed earnings to common shareholders	\$ 28,080	\$ 25,572
Undistributed earnings allocated to common shareholders	54,410	41,225
Total common shareholders earnings, basic	\$ 82,490	\$ 66,797
Diluted		
Distributed earnings to common shareholders	\$ 28,080	\$ 25,572
Undistributed earnings allocated to common shareholders	54,410	41,225
Total common shareholders earnings, diluted	\$ 82,490	\$ 66,797
Weighted average common shares outstanding	163,928	163,520
Effect of dilutive common stock awards	1,505	2,038
Effect of dilutive common stock warrants	—	874
Diluted weighted average common shares outstanding	165,433	166,432
Basic earnings per common share	\$ 0.50	\$ 0.41
Diluted earnings per common share	\$ 0.50	\$ 0.40

Anti-dilutive common stock options of approximately 3 million and 1 million for the three months ended March 31, 2019 and 2018, respectively, were excluded from the earnings per common share calculation.

Note 5 Stock-Based Compensation

The fair value of stock options granted is estimated on the date of grant using a Black-Scholes option pricing model, while the fair value of restricted stock awards is their fair market value on the date of grant. The fair values of stock options and restricted stock awards are amortized as compensation expense on a straight-line basis over the vesting period of the grants. For retirement eligible colleagues, whose employment meets the definitions under the 2017 Incentive Compensation Plan, expenses related to stock options and restricted stock awards are fully recognized on the date the colleague meets the definition of normal or early retirement. Compensation expense recognized is included in personnel expense in the consolidated statements of income.

Performance awards are based on performance goals of earnings per share and total shareholder return with vesting ranging from a minimum of 0% to a maximum of 150% of the target award. Performance awards are valued utilizing a Monte Carlo simulation model to estimate fair value of the awards at the grant date.

Assumptions are used in estimating the fair value of stock options granted. The weighted average expected life of the stock option represents the period of time stock options are expected to be outstanding and is estimated using historical data of stock

option exercises and forfeitures. The risk-free interest rate is based on the U.S. Treasury yield curve in effect at the time of grant. The expected volatility is based on the implied volatility of the Corporation's stock.

The following assumptions were used in estimating the fair value for options granted in the first three months of 2019 and full year 2018:

	2019	2018
Dividend yield	3.30%	2.50%
Risk-free interest rate	2.60%	2.60%
Weighted average expected volatility	24.00%	22.00%
Weighted average expected life	5.75 years	5.75 years
Weighted average per share fair value of options	\$4.00	\$4.47

A summary of the Corporation's stock option activity for the three months ended March 31, 2019 is presented below:

Stock Options	Shares ^(a)	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term	Aggregate Intrinsic Value ^(a)
Outstanding at December 31, 2018	5,281	\$ 19.09	6.18	\$ 12,392
Granted	1,050	22.77		
Exercised	(355)	15.61		
Forfeited or expired	(72)	23.46		
Outstanding at March 31, 2019	<u>5,905</u>	\$ 19.91	6.82	\$ 15,870
Options Exercisable at March 31, 2019	<u>3,691</u>	\$ 18.01	5.51	\$ 14,953

(a) In thousands

Intrinsic value represents the amount by which the fair market value of the underlying stock exceeds the exercise price of the stock option. For the three months ended March 31, 2019, the intrinsic value of stock options exercised was approximately \$2 million, compared to \$5 million for the three months ended March 31, 2018. The total fair value of stock options vested was \$4 million for the three months ended March 31, 2019 and \$3 million for the three months ended March 31, 2018.

The Corporation recognized compensation expense for the vesting of stock options of \$1 million for both the three months ended March 31, 2019 and March 31, 2018. Included in compensation expense for 2019 was less than \$1 million of expense for the accelerated vesting of stock options granted to retirement eligible colleagues. At March 31, 2019, the Corporation had approximately \$7 million of unrecognized compensation expense related to stock options that is expected to be recognized over the remaining requisite service periods that extend through first quarter 2023.

The Corporation also issues restricted common stock and restricted common stock units to certain key employees (collectively referred to as "restricted stock awards") under the 2017 Incentive Compensation Plan. The following table summarizes information about the Corporation's restricted stock awards activity for the three months ended March 31, 2019:

Restricted Stock Awards	Shares ^(a)	Weighted Average Grant Date Fair Value
Outstanding at December 31, 2018	1,993	\$ 21.92
Granted	1,153	22.21
Vested	(618)	20.32
Forfeited	(18)	23.67
Outstanding at March 31, 2019	<u>2,510</u>	\$ 22.43

(a) In thousands

The Corporation amortizes the expense related to restricted stock awards as compensation expense over the vesting period specified in the grant's award agreement. Performance-based restricted stock awards granted during 2018 and 2019 will vest ratably over a period of three years. Service-based restricted stock awards granted during 2018 and 2019 will vest ratably over a period of four years. Expense for restricted stock awards issued of approximately \$8 million was recorded for the three months ended March 31, 2019 and \$3 million was recorded for the three months ended March 31, 2018. Included in compensation expense for 2019 was approximately \$2 million of expense for the accelerated vesting of restricted stock awards granted to retirement eligible colleagues. The Corporation had \$33 million of unrecognized compensation costs related to restricted stock awards at March 31, 2019, that is expected to be recognized over the remaining requisite service periods that extend through first quarter 2023.

The Corporation has the ability to issue shares from treasury or new shares upon the exercise of stock options or the granting of restricted stock awards. The Board of Directors has authorized management to repurchase shares of the Corporation's common stock in the market, to be made available for issuance in connection with the Corporation's employee incentive plans and for other corporate purposes. The repurchase of shares will be based on market and investment opportunities, capital levels, growth prospects, and regulatory constraints. Such repurchases may occur from time to time in open market purchases, block transactions, private transactions, accelerated share repurchase programs, or similar facilities.

Note 6 Investment Securities

Investment securities are generally classified as available for sale or held to maturity at the time of purchase. The majority of the Corporation's investment securities are mortgage-related securities issued by GNMA or GSEs such as FNMA and FHLMC. Obligations of state and political subdivisions (municipal securities) make up a large percentage of the portfolio as well.

The amortized cost and fair values of securities available for sale and held to maturity at March 31, 2019 were as follows:

March 31, 2019	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
(\$ in Thousands)				
Investment securities available for sale				
Residential mortgage-related securities				
FNMA / FHLMC	\$ 242,921	\$ 1,607	\$ (2,453)	\$ 242,074
GNMA	2,060,377	727	(23,004)	2,038,100
Private-label	877	1	—	878
Commercial mortgage-related securities				
FNMA / FHLMC	20,309	346	—	20,655
GNMA	1,291,892	402	(44,512)	1,247,782
FFELP asset backed securities	276,164	931	(195)	276,899
Other debt securities	3,000	—	—	3,000
Total investment securities available for sale	<u>\$ 3,895,540</u>	<u>\$ 4,013</u>	<u>\$ (70,164)</u>	<u>\$ 3,829,388</u>
Investment securities held to maturity				
U. S. Treasury securities	\$ 999	\$ 8	\$ —	\$ 1,007
Obligations of state and political subdivisions (municipal securities)	1,922,792	39,043	(1,349)	1,960,487
Residential mortgage-related securities				
FNMA / FHLMC	91,003	413	(601)	90,815
GNMA	339,742	1,714	(3,314)	338,141
GNMA commercial mortgage-related securities	492,154	7,112	(20,846)	478,421
Total investment securities held to maturity	<u>\$ 2,846,689</u>	<u>\$ 48,291</u>	<u>\$ (26,109)</u>	<u>\$ 2,868,870</u>

The amortized cost and fair values of securities available for sale and held to maturity at December 31, 2018 were as follows:

December 31, 2018	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
	(\$ in Thousands)			
Investment securities available for sale				
U. S. Treasury securities	\$ 1,000	\$ —	\$ (1)	\$ 999
Residential mortgage-related securities				
FNMA / FHLMC	296,296	2,466	(3,510)	295,252
GNMA	2,169,943	473	(41,885)	2,128,531
Private-label	1,007	—	(4)	1,003
GNMA commercial mortgage-related securities	1,273,309	—	(52,512)	1,220,797
FFELP asset backed securities	297,347	711	(698)	297,360
Other debt securities	3,000	—	—	3,000
Total investment securities available for sale	\$ 4,041,902	\$ 3,649	\$ (98,610)	\$ 3,946,941
Investment securities held to maturity				
Obligations of state and political subdivisions (municipal securities)	\$ 1,790,683	\$ 8,255	\$ (15,279)	\$ 1,783,659
Residential mortgage-related securities				
FNMA / FHLMC	92,788	169	(1,795)	91,162
GNMA	351,606	1,611	(8,181)	345,035
GNMA commercial mortgage-related securities	505,434	7,559	(22,579)	490,414
Total investment securities held to maturity	\$ 2,740,511	\$ 17,593	\$ (47,835)	\$ 2,710,271

Expected maturities may differ from contractual maturities because borrowers may have the right to call or prepay obligations with or without call or prepayment penalties. The expected maturities of investment securities available for sale and held to maturity at March 31, 2019 are shown below:

	Available for Sale		Held to Maturity	
	Amortized Cost	Fair Value	Amortized Cost	Fair Value
(\$ in Thousands)				
Due in one year or less	\$ 1,000	\$ 1,000	\$ 46,085	\$ 46,262
Due after one year through five years	2,000	2,000	190,810	191,172
Due after five years through ten years	—	—	444,710	450,417
Due after ten years	—	—	1,242,186	1,273,642
Total debt securities	3,000	3,000	1,923,790	1,961,493
Residential mortgage-related securities				
FNMA / FHLMC	242,921	242,074	91,003	90,815
GNMA	2,060,377	2,038,100	339,742	338,141
Private-label	877	878	—	—
Commercial mortgage-related securities				
FNMA / FHLMC	20,309	20,655	—	—
GNMA	1,291,892	1,247,782	492,154	478,421
FFELP asset backed securities	276,164	276,899	—	—
Total investment securities	\$ 3,895,540	\$ 3,829,388	\$ 2,846,689	\$ 2,868,870
Ratio of fair value to amortized cost		98.3%		100.8%

The proceeds from the sale of investment securities for the three months ended March 31, 2019 and 2018 are shown below:

	Three Months Ended March 31,	
	2019	2018
	(\$ in Thousands)	
Gross gains on available for sale securities	\$ 1,680	\$ —
Gross gains on held to maturity securities	—	—
Total gains	1,680	—
Gross losses on available for sale securities	—	—
Gross losses on held to maturity securities	—	—
Total losses	—	—
Investment securities gains (losses), net	\$ 1,680	\$ —
Proceeds from sales of investment securities	\$ 131,122	\$ 452,867

During the first quarter of 2019, the Corporation sold taxable ABS, MBS, and CMO securities, with the proceeds utilized to pay down borrowings.

On February 1, 2018, the date the Bank Mutual acquisition was completed, the Corporation sold Bank Mutual's entire \$453 million securities portfolio. The Corporation originally reinvested the proceeds from the Bank Mutual securities portfolio into GNMA residential mortgage-related securities with the goal of reinvesting future cash flows into municipal securities. This strategy was completed during August 2018.

Investment securities with a carrying value of approximately \$3.6 billion and \$3.0 billion at March 31, 2019, and December 31, 2018, respectively, were pledged to secure certain deposits or for other purposes as required or permitted by law.

The following represents gross unrealized losses and the related fair value of investment securities available for sale and held to maturity, aggregated by investment category and length of time individual securities have been in a continuous unrealized loss position, at March 31, 2019:

March 31, 2019	Less than 12 months			12 months or more			Total	
	Number of Securities	Unrealized Losses	Fair Value	Number of Securities	Unrealized Losses	Fair Value	Unrealized Losses	Fair Value
	(\$ in Thousands)							
Investment securities available for sale								
Residential mortgage-related securities								
FNMA / FHLMC	9	\$ (5)	\$ 6,468	17	\$ (2,448)	\$ 172,018	\$ (2,453)	\$ 178,486
GNMA	9	(1,760)	110,619	73	(21,245)	1,660,128	(23,004)	1,770,747
GNMA commercial mortgage-related securities	—	—	—	92	(44,512)	1,197,896	(44,512)	1,197,896
FFELP asset backed securities	10	(195)	128,657	—	—	—	(195)	128,657
Total	28	\$ (1,959)	\$ 245,744	182	\$ (68,205)	\$ 3,030,042	\$ (70,164)	\$ 3,275,786
Investment securities held to maturity								
Obligations of state and political subdivisions (municipal securities)								
	7	\$ (13)	\$ 5,599	193	\$ (1,336)	\$ 136,727	\$ (1,349)	\$ 142,326
Residential mortgage-related securities								
FNMA / FHLMC	1	(3)	1,664	22	(598)	51,691	(601)	53,356
GNMA	—	—	—	63	(3,314)	283,774	(3,314)	283,774
GNMA commercial mortgage-related securities	—	—	—	25	(20,846)	478,421	(20,846)	478,421
Total	8	\$ (16)	\$ 7,264	303	\$ (26,093)	\$ 950,613	\$ (26,109)	\$ 957,877

For comparative purposes, the following represents gross unrealized losses and the related fair value of investment securities available for sale and held to maturity, aggregated by investment category and length of time that individual securities have been in a continuous unrealized loss position, at December 31, 2018:

December 31, 2018	Less than 12 months			12 months or more			Total	
	Number of Securities	Unrealized Losses	Fair Value	Number of Securities	Unrealized Losses	Fair Value	Unrealized Losses	Fair Value
(\$ in Thousands)								
Investment securities available for sale								
U.S. Treasury securities	—	\$ —	\$ —	1	\$ (1)	\$ 999	\$ (1)	\$ 999
Residential mortgage-related securities								
FNMA / FHLMC	15	(31)	17,993	17	(3,479)	189,405	(3,510)	207,398
GNMA	12	(4,529)	452,183	79	(37,355)	1,598,159	(41,885)	2,050,342
Private-label	1	(4)	1,003	—	—	—	(4)	1,003
GNMA commercial mortgage-related securities	—	—	—	93	(52,512)	1,220,854	(52,512)	1,220,854
FFELP asset backed securities	13	(698)	142,432	—	—	—	(698)	142,432
Total	41	\$ (5,262)	\$ 613,612	190	\$ (93,347)	\$ 3,009,417	\$ (98,610)	\$ 3,623,028
Investment securities held to maturity								
Obligations of state and political subdivisions (municipal securities)	272	\$ (2,860)	\$ 313,212	752	\$ (12,419)	\$ 509,374	\$ (15,279)	\$ 822,586
Residential mortgage-related securities								
FNMA / FHLMC	13	(780)	57,896	22	(1,015)	28,888	(1,795)	86,784
GNMA	13	(414)	19,822	66	(7,767)	320,387	(8,181)	340,209
GNMA commercial mortgage-related securities	—	—	—	25	(22,579)	490,414	(22,579)	490,414
Total	298	\$ (4,053)	\$ 390,929	865	\$ (43,780)	\$ 1,349,063	\$ (47,835)	\$ 1,739,992

The Corporation reviews the investment securities portfolio on a quarterly basis to monitor its exposure to other-than-temporary impairment. A determination as to whether a security's decline in fair value is other-than-temporary takes into consideration numerous factors and the relative significance of any single factor can vary by security. Some factors the Corporation may consider in the other-than-temporary impairment analysis include the length of time and extent to which the security has been in an unrealized loss position, changes in security ratings, financial condition and near-term prospects of the issuer, as well as security and industry specific economic conditions.

Based on the Corporation's evaluation, management does not believe any unrealized loss at March 31, 2019 represents an other-than-temporary impairment as these unrealized losses are primarily attributable to changes in interest rates and the current market conditions, and not credit deterioration. The unrealized losses reported for municipal securities relate to various state and local political subdivisions and school districts. The unrealized losses at March 31, 2019 for mortgage-related securities were less than the previous quarter due to the decrease in overall interest rates. The U.S. Treasury 3 year and 5 year rates decreased by 25 bp and 28 bp, respectively, from December 31, 2018. The Corporation does not intend to sell nor does it believe that it will be required to sell the securities in an unrealized loss position before recovery of their amortized cost basis.

Equity securities with readily determinable fair values: The Corporation's portfolio of equity securities is primarily comprised of CRA Qualified Investment mutual funds. At both March 31, 2019 and December 31, 2018, the Corporation had equity securities with readily determinable fair values of \$2 million.

In addition, in 2008, the Corporation received Visa Class B restricted shares as part of Visa's initial public offering. Based on the existing transfer restriction and the uncertainty of the covered litigation, the approximately 119 thousand Class B shares remaining that the Corporation owned as of March 31, 2019 are carried at a zero cost basis.

FHLB and Federal Reserve Bank stocks: The Corporation is required to maintain Federal Reserve stock and FHLB stock as a member of both the Federal Reserve System and the FHLB, and in amounts as required by these institutions. These equity securities are "restricted" in that they can only be sold back to the respective institutions or another member institution at par. Therefore, they are less liquid than other marketable equity securities and their fair value is equal to amortized cost. At March 31, 2019 and December 31, 2018, the Corporation had FHLB stock of \$139 million and \$173 million, respectively. The Corporation had Federal Reserve Bank stock of \$77 million at both March 31, 2019 and December 31, 2018.

Note 7 Loans

The period end loan composition was as follows:

	March 31, 2019 ^(a)		December 31, 2018 ^(a)	
	(\$ in Thousands)			
Commercial and industrial	\$	7,587,597	\$	7,398,044
Commercial real estate — owner occupied		932,393		920,443
Commercial and business lending		8,519,990		8,318,487
Commercial real estate — investor		3,809,253		3,751,554
Real estate construction		1,273,782		1,335,031
Commercial real estate lending		5,083,035		5,086,585
Total commercial		13,603,025		13,405,072
Residential mortgage		8,323,846		8,277,712
Home equity		868,886		894,473
Other consumer		352,602		363,171
Total consumer		9,545,333		9,535,357
Total loans	\$	23,148,359	\$	22,940,429

(a) Includes \$5 million of purchased credit-impaired loans at March 31, 2019 and December 31, 2018.

The following table presents commercial and consumer loans by credit quality indicator at March 31, 2019:

	Pass		Special Mention		Potential Problem		Nonaccrual		Total	
	(\$ in Thousands)									
Commercial and industrial	\$	7,371,790	\$	30,657	\$	111,772	\$	73,379	\$	7,587,597
Commercial real estate - owner occupied		874,152		8,422		48,929		890		932,393
Commercial and business lending		8,245,942		39,079		160,701		74,269		8,519,990
Commercial real estate - investor		3,698,679		39,184		70,613		776		3,809,253
Real estate construction		1,259,661		8,782		4,600		739		1,273,782
Commercial real estate lending		4,958,341		47,966		75,213		1,516		5,083,035
Total commercial		13,204,282		87,045		235,914		75,784		13,603,025
Residential mortgage		8,250,915		256		5,351		67,323		8,323,846
Home equity		855,603		891		91		12,300		868,886
Other consumer		351,734		719		—		149		352,602
Total consumer		9,458,252		1,866		5,443		79,772		9,545,333
Total loans	\$	22,662,534	\$	88,912	\$	241,357	\$	155,556	\$	23,148,359

The following table presents commercial and consumer loans by credit quality indicator at December 31, 2018:

	Pass		Special Mention		Potential Problem		Nonaccrual		Total	
	(\$ in Thousands)									
Commercial and industrial	\$	7,162,370	\$	78,075	\$	116,578	\$	41,021	\$	7,398,044
Commercial real estate - owner occupied		854,265		6,257		55,964		3,957		920,443
Commercial and business lending		8,016,635		84,332		172,542		44,978		8,318,487
Commercial real estate - investor		3,653,642		28,479		67,481		1,952		3,751,554
Real estate construction		1,321,447		8,771		3,834		979		1,335,031
Commercial real estate lending		4,975,089		37,249		71,315		2,931		5,086,585
Total commercial		12,991,724		121,582		243,856		47,909		13,405,072
Residential mortgage		8,203,729		434		5,975		67,574		8,277,712
Home equity		880,808		1,223		103		12,339		894,473
Other consumer		362,343		749		—		79		363,171
Total consumer		9,446,881		2,406		6,078		79,992		9,535,357
Total loans	\$	22,438,605	\$	123,988	\$	249,935	\$	127,901	\$	22,940,429

Factors that are important to managing overall credit quality are sound loan underwriting and administration, systematic monitoring of existing loans and commitments, effective loan review on an ongoing basis, early identification of potential

problems, and appropriate allowance for loan losses, allowance for unfunded commitments, nonaccrual, and charge off policies.

For commercial loans, management has determined the pass credit quality indicator to include credits exhibiting acceptable financial statements, cash flow, and leverage. If any risk exists, it is mitigated by the loan structure, collateral, monitoring, or control. For consumer loans, performing loans include credits performing in accordance with the original contractual terms. Loans are considered past due if the required principal and interest payments have not been received as of the date such payments were due. Special mention credits have potential weaknesses that deserve management’s attention. If left uncorrected, these potential weaknesses may result in deterioration of the repayment prospects for the credit. Potential problem loans are considered inadequately protected by the current net worth and paying capacity of the obligor or the collateral pledged. These loans generally have a well-defined weakness, or weaknesses, that may jeopardize liquidation of the debt and are characterized by the distinct possibility the Corporation will sustain some loss if the deficiencies are not corrected. Lastly, management considers a loan to be impaired when it is probable the Corporation will be unable to collect all amounts due according to the original contractual terms of the note agreement, including both principal and interest. Management has determined commercial and consumer loan relationships in nonaccrual status or those with their terms restructured in a troubled debt restructuring meet this impaired loan definition. Commercial loans classified as special mention, potential problem, and nonaccrual are reviewed at a minimum on a quarterly basis, while pass and performing rated credits are reviewed on an annual basis or more frequently if the loan renewal is less than one year or if otherwise warranted.

The following table presents loans by past due status at March 31, 2019:

	Accruing					Nonaccrual ^(a)	Total
	Current	30-59 Days Past Due	60-89 Days Past Due	90 Days or More Past Due			
(\$ in Thousands)							
Commercial and industrial	\$ 7,510,637	\$ 2,902	\$ 392	\$ 287	\$ 73,379	\$ 7,587,597	
Commercial real estate - owner occupied	925,437	6,066	—	—	890	932,393	
Commercial and business lending	8,436,074	8,968	392	287	74,269	8,519,990	
Commercial real estate - investor	3,807,387	1,090	—	—	776	3,809,253	
Real estate construction	1,266,270	6,727	46	—	739	1,273,782	
Commercial real estate lending	5,073,657	7,816	46	—	1,516	5,083,035	
Total commercial	13,509,731	16,785	439	287	75,784	13,603,025	
Residential mortgage	8,243,248	13,018	256	—	67,323	8,323,846	
Home equity	850,223	5,472	891	—	12,300	868,886	
Other consumer	348,158	1,389	975	1,931	149	352,602	
Total consumer	9,441,629	19,879	2,123	1,931	79,772	9,545,333	
Total loans	\$ 22,951,360	\$ 36,663	\$ 2,562	\$ 2,218	\$ 155,556	\$ 23,148,359	

(a) Of the total nonaccrual loans, \$106 million, or 68%, were current with respect to payment at March 31, 2019.

The following table presents loans by past due status at December 31, 2018:

	Accruing					Nonaccrual ^(a)	Total
	Current	30-59 Days Past Due	60-89 Days Past Due	90 Days or More Past Due			
(\$ in Thousands)							
Commercial and industrial	\$ 7,356,187	\$ 187	\$ 338	\$ 311	\$ 41,021	\$ 7,398,044	
Commercial real estate - owner occupied	913,787	2,580	119	—	3,957	920,443	
Commercial and business lending	8,269,974	2,767	457	311	44,978	8,318,487	
Commercial real estate - investor	3,745,835	2,954	813	—	1,952	3,751,554	
Real estate construction	1,333,722	330	—	—	979	1,335,031	
Commercial real estate lending	5,079,557	3,284	813	—	2,931	5,086,585	
Total commercial	13,349,531	6,051	1,270	311	47,909	13,405,072	
Residential mortgage	8,200,432	9,272	434	—	67,574	8,277,712	
Home equity	876,085	4,826	1,223	—	12,339	894,473	
Other consumer	358,970	1,401	868	1,853	79	363,171	
Total consumer	9,435,487	15,499	2,525	1,853	79,992	9,535,357	
Total loans	\$ 22,785,019	\$ 21,550	\$ 3,795	\$ 2,165	\$ 127,901	\$ 22,940,429	

(a) Of the total nonaccrual loans, \$74 million, or 58%, were current with respect to payment at December 31, 2018.

The following table presents impaired loans individually evaluated under ASC Topic 310, excluding \$5 million of purchased credit-impaired loans, at March 31, 2019:

	Recorded Investment	Unpaid Principal Balance	Related Allowance	Average Recorded Investment	Interest Income Recognized
(\$ in Thousands)					
Loans with a related allowance					
Commercial and industrial	\$ 44,810	\$ 48,448	\$ 10,876	\$ 36,288	\$ 317
Commercial real estate — owner occupied	2,104	2,111	50	2,122	27
Commercial and business lending	46,914	50,559	10,926	38,411	344
Commercial real estate — investor	1,700	1,799	26	792	17
Real estate construction	498	578	69	502	9
Commercial real estate lending	2,198	2,377	94	1,293	25
Total commercial	49,112	52,936	11,021	39,704	369
Residential mortgage	46,165	49,395	6,197	43,194	527
Home equity	10,792	11,815	3,348	10,015	128
Other consumer	1,158	1,161	119	1,159	—
Total consumer	58,116	62,370	9,664	54,368	655
Total loans ^(a)	\$ 107,228	\$ 115,307	\$ 20,684	\$ 94,072	\$ 1,025
Loans with no related allowance					
Commercial and industrial	\$ 42,988	\$ 61,425	\$ —	\$ 15,896	\$ 1,657
Commercial real estate — owner occupied	730	740	—	—	3
Commercial and business lending	43,718	62,166	—	15,896	1,660
Commercial real estate — investor	635	1,805	—	1,559	—
Real estate construction	—	—	—	—	—
Commercial real estate lending	635	1,805	—	1,559	—
Total commercial	44,353	63,970	—	17,455	1,660
Residential mortgage	8,182	8,429	—	7,885	48
Home equity	—	—	—	523	—
Other consumer	—	—	—	—	—
Total consumer	8,182	8,429	—	8,408	48
Total loans ^(a)	\$ 52,535	\$ 72,399	\$ —	\$ 25,863	\$ 1,708
Total					
Commercial and industrial	\$ 87,798	\$ 109,873	\$ 10,876	\$ 52,184	\$ 1,974
Commercial real estate — owner occupied	2,834	2,851	50	2,122	30
Commercial and business lending	90,632	112,724	10,926	54,307	2,004
Commercial real estate — investor	2,335	3,604	26	2,351	17
Real estate construction	498	578	69	502	9
Commercial real estate lending	2,833	4,182	94	2,852	25
Total commercial	93,465	116,906	11,021	57,159	2,029
Residential mortgage	54,348	57,824	6,197	51,079	574
Home equity	10,792	11,815	3,348	10,538	128
Other consumer	1,158	1,161	119	1,159	—
Total consumer	66,298	70,799	9,664	62,776	703
Total loans ^(a)	\$ 159,763	\$ 187,705	\$ 20,684	\$ 119,935	\$ 2,732

(a) The net recorded investment (defined as recorded investment, net of the related allowance) of the impaired loans represented 74% of the unpaid principal balance at March 31, 2019.

The following table presents impaired loans individually evaluated under ASC Topic 310, excluding \$5 million of purchased credit-impaired loans, at December 31, 2018:

	Recorded Investment	Unpaid Principal Balance	Related Allowance	Average Recorded Investment	Interest Income Recognized
(\$ in Thousands)					
Loans with a related allowance					
Commercial and industrial	\$ 40,747	\$ 42,131	\$ 5,721	\$ 52,461	\$ 1,167
Commercial real estate — owner occupied	2,080	2,087	24	2,179	104
Commercial and business lending	42,827	44,218	5,745	54,640	1,271
Commercial real estate — investor	799	805	28	827	38
Real estate construction	510	589	75	533	32
Commercial real estate lending	1,309	1,394	103	1,360	70
Total commercial	44,136	45,612	5,848	56,000	1,341
Residential mortgage	41,691	45,149	6,023	42,687	1,789
Home equity	9,601	10,539	3,312	10,209	566
Other consumer	1,181	1,183	121	1,184	3
Total consumer	52,473	56,871	9,456	54,080	2,358
Total loans ^(a)	\$ 96,609	\$ 102,483	\$ 15,304	\$ 110,079	\$ 3,699
Loans with no related allowance					
Commercial and industrial	\$ 22,406	\$ 45,024	\$ —	\$ 21,352	\$ (344)
Commercial real estate — owner occupied	3,772	4,823	—	3,975	—
Commercial and business lending	26,178	49,847	—	25,327	(344)
Commercial real estate — investor	1,585	2,820	—	980	68
Real estate construction	—	—	—	—	—
Commercial real estate lending	1,585	2,820	—	980	68
Total commercial	27,763	52,667	—	26,307	(276)
Residential mortgage	8,795	9,074	—	8,790	203
Home equity	523	542	—	530	—
Other consumer	—	—	—	—	—
Total consumer	9,318	9,616	—	9,320	203
Total loans ^(a)	\$ 37,081	\$ 62,283	\$ —	\$ 35,627	\$ (73)
Total					
Commercial and industrial	\$ 63,153	\$ 87,155	\$ 5,721	\$ 73,813	\$ 823
Commercial real estate — owner occupied	5,852	6,910	24	6,154	104
Commercial and business lending	69,005	94,065	5,745	79,967	927
Commercial real estate — investor	2,384	3,625	28	1,807	106
Real estate construction	510	589	75	533	32
Commercial real estate lending	2,894	4,214	103	2,340	138
Total commercial	71,899	98,279	5,848	82,307	1,065
Residential mortgage	50,486	54,223	6,023	51,477	1,992
Home equity	10,124	11,081	3,312	10,739	566
Other consumer	1,181	1,183	121	1,184	3
Total consumer	61,791	66,487	9,456	63,400	2,561
Total loans ^(a)	\$ 133,690	\$ 164,766	\$ 15,304	\$ 145,707	\$ 3,626

(a) The net recorded investment (defined as recorded investment, net of the related allowance) of the impaired loans represented 72% of the unpaid principal balance at December 31, 2018.

Troubled Debt Restructurings (“Restructured Loans”)

Loans are considered restructured loans if concessions have been granted to borrowers that are experiencing financial difficulty. The Corporation had a recorded investment of approximately \$5 million in loans modified in troubled debt restructurings during the three months ended March 31, 2019, of which \$1 million were in accrual status and approximately \$4 million were in nonaccrual pending a sustained period of repayment.

The following table presents nonaccrual and performing restructured loans by loan portfolio:

	March 31, 2019		December 31, 2018	
	Performing Restructured Loans	Nonaccrual Restructured Loans ^(a)	Performing Restructured Loans	Nonaccrual Restructured Loans ^(a)
(\$ in Thousands)				
Commercial and industrial	\$ 15,443	\$ 107	\$ 25,478	\$ 249
Commercial real estate — owner occupied	2,026	78	2,080	—
Commercial real estate — investor	1,700	—	799	933
Real estate construction	311	187	311	198
Residential mortgage	18,226	21,549	16,036	22,279
Home equity	7,688	2,247	7,385	2,627
Other consumer	1,154	5	1,174	6
Total restructured loans	\$ 46,548	\$ 24,172	\$ 53,263	\$ 26,292

(a) Nonaccrual restructured loans have been included within nonaccrual loans.

The following table provides the number of loans modified in a troubled debt restructuring by loan portfolio, the recorded investment and unpaid principal balance for the three months ended March 31, 2019 and 2018:

	Three Months Ended March 31, 2019			Three Months Ended March 31, 2018		
	Number of Loans	Recorded Investment ^(a)	Unpaid Principal Balance ^(b)	Number of Loans	Recorded Investment ^(a)	Unpaid Principal Balance ^(b)
(\$ in Thousands)						
Commercial and industrial	—	\$ —	\$ —	2	\$ 92	\$ 92
Commercial real estate — owner occupied	1	78	78	—	—	—
Commercial real estate — investor	—	—	—	1	1,007	1,037
Residential mortgage	25	4,357	4,374	11	1,807	1,807
Home equity	13	293	312	17	1,044	1,060
Other consumer	1	11	11	2	8	11
Total loans modified	40	\$ 4,739	\$ 4,776	33	\$ 3,958	\$ 4,007

(a) Represents post-modification outstanding recorded investment.

(b) Represents pre-modification outstanding recorded investment.

Restructured loan modifications may include payment schedule modifications, interest rate concessions, maturity date extensions, modification of note structure (A/B Note), non-reaffirmed Chapter 7 bankruptcies, principal reduction, or some combination of these concessions. During the three months ended March 31, 2019, restructured loan modifications of commercial and industrial, commercial real estate, and real estate construction loans primarily included maturity date extensions and payment schedule modifications. Restructured loan modifications of home equity and residential mortgage loans primarily included maturity date extensions, interest rate concessions, non-reaffirmed Chapter 7 bankruptcies, or a combination of these concessions for the three months ended March 31, 2019.

The following table provides the number of loans modified in a troubled debt restructuring during the previous twelve months which subsequently defaulted during the three months ended March 31, 2019 and 2018 and the recorded investment in these restructured loans as of March 31, 2019 and 2018:

	Three Months Ended March 31, 2019		Three Months Ended March 31, 2018	
	Number of Loans	Recorded Investment	Number of Loans	Recorded Investment
(\$ in Thousands)				
Residential mortgage	5	\$ 613	4	\$ 467
Home equity	7	177	12	954
Total loans modified	12	\$ 790	16	\$ 1,421

All loans modified in a troubled debt restructuring are evaluated for impairment. The nature and extent of the impairment of restructured loans, including those which have experienced a subsequent payment default, are considered in the determination of an appropriate level of the allowance for loan losses.

Allowance for Credit Losses

The allowance for credit losses is comprised of the allowance for loan losses and the allowance for unfunded commitments. The level of the allowance for loan losses represents management's estimate of an amount appropriate to provide for probable credit losses in the loan portfolio at the balance sheet date. The allowance for unfunded commitments is maintained at a level believed by management to be sufficient to absorb estimated probable losses related to unfunded credit facilities (including unfunded loan commitments and letters of credit) and is included in accrued expenses and other liabilities on the consolidated balance sheets. See Note 12 for additional information on the allowance for unfunded commitments.

The following table presents a summary of the changes in the allowance for loan losses by portfolio segment for the three months ended March 31, 2019:

(\$ in Thousands)	Commercial and industrial	Commercial real estate - owner occupied	Commercial real estate - investor	Real estate construction	Residential mortgage	Home equity	Other consumer	Total
December 31, 2018	\$ 108,835	\$ 9,255	\$ 40,844	\$ 28,240	\$ 25,595	\$ 19,266	\$ 5,988	\$ 238,023
Charge offs	(13,216)	—	—	(52)	(652)	(254)	(1,312)	(15,486)
Recoveries	5,788	1,193	31	52	195	563	222	8,044
Net Charge offs	(7,428)	1,193	31	—	(457)	309	(1,090)	(7,442)
Provision for loan losses	7,525	131	289	(1,326)	(1,567)	(1,639)	1,087	4,500
March 31, 2019	\$ 108,933	\$ 10,579	\$ 41,164	\$ 26,914	\$ 23,571	\$ 17,936	\$ 5,984	\$ 235,081
Allowance for loan losses								
Individually evaluated for impairment	\$ 10,876	\$ 50	\$ 26	\$ 69	\$ 6,197	\$ 3,348	\$ 119	\$ 20,684
Collectively evaluated for impairment	98,057	10,529	41,138	26,845	17,373	14,588	5,866	214,396
Acquired and accounted for under ASC 310-30 ^(a)	—	—	—	—	—	—	—	—
Total allowance for loan losses	\$ 108,933	\$ 10,579	\$ 41,164	\$ 26,914	\$ 23,571	\$ 17,936	\$ 5,984	\$ 235,081
Loans								
Individually evaluated for impairment	\$ 87,798	\$ 2,834	\$ 2,335	\$ 498	\$ 54,347	\$ 10,793	\$ 1,158	\$ 159,763
Collectively evaluated for impairment	7,496,743	928,723	3,806,635	1,273,267	8,268,834	858,044	351,443	22,983,688
Acquired and accounted for under ASC 310-30 ^(a)	3,057	836	283	18	664	49	—	4,907
Total loans	\$ 7,587,597	\$ 932,393	\$ 3,809,253	\$ 1,273,782	\$ 8,323,846	\$ 868,886	\$ 352,602	\$ 23,148,359

(a) Loans acquired in business combinations and accounted for under ASC topic 310-30 "Receivables — Loans and Debt Securities Acquired with Deteriorated Credit Quality."

For comparison purposes, a summary of the changes in the allowance for loan losses by portfolio segment for the year ended December 31, 2018, was as follows:

(\$ in Thousands)	Commercial and industrial	Commercial real estate - owner occupied	Commercial real estate - investor	Real estate construction	Residential mortgage	Home equity	Other consumer	Total
December 31, 2017	\$ 123,068	\$ 10,352	\$ 41,059	\$ 34,370	\$ 29,607	\$ 22,126	\$ 5,298	\$ 265,880
Charge offs	(30,837)	(1,363)	(7,914)	(298)	(1,627)	(3,236)	(5,261)	(50,536)
Recoveries	13,714	639	668	446	1,271	2,628	812	20,179
Net Charge offs	(17,123)	(724)	(7,246)	149	(355)	(608)	(4,448)	(30,358)
Provision for loan losses	2,890	(373)	7,031	(6,279)	(3,657)	(2,252)	5,138	2,500
December 31, 2018	\$ 108,835	\$ 9,255	\$ 40,844	\$ 28,240	\$ 25,595	\$ 19,266	\$ 5,988	\$ 238,023
Allowance for loan losses								
Individually evaluated for impairment	\$ 5,721	\$ 24	\$ 28	\$ 75	\$ 6,023	\$ 3,312	\$ 121	\$ 15,304
Collectively evaluated for impairment	103,114	9,231	40,816	28,165	19,572	15,954	5,867	222,719
Acquired and accounted for under ASC 310-30 ^(a)	—	—	—	—	—	—	—	—
Total allowance for loan losses	\$ 108,835	\$ 9,255	\$ 40,844	\$ 28,240	\$ 25,595	\$ 19,266	\$ 5,988	\$ 238,023
Loans								
Individually evaluated for impairment	\$ 63,153	\$ 5,852	\$ 2,384	\$ 510	\$ 50,486	\$ 10,124	\$ 1,181	\$ 133,690
Collectively evaluated for impairment	7,331,898	913,708	3,748,883	1,334,500	8,226,642	884,266	361,990	22,801,887
Acquired and accounted for under ASC 310-30 ^(a)	2,994	883	287	21	584	83	—	4,853
Total loans	\$ 7,398,044	\$ 920,443	\$ 3,751,554	\$ 1,335,031	\$ 8,277,712	\$ 894,473	\$ 363,171	\$ 22,940,429

(a) Loans acquired in business combinations and accounted for under ASC Subtopic 310-30 "Receivables — Loans and Debt Securities Acquired with Deteriorated Credit Quality."

The allowance for unfunded commitments is maintained at a level believed by management to be sufficient to absorb estimated probable losses related to unfunded credit facilities (including unfunded loan commitments and letters of credit) and is included in accrued expenses and other liabilities on the consolidated balance sheets. The following table presents a summary of the changes in the allowance for unfunded commitments:

	Three Months Ended March 31, 2019	Year Ended December 31, 2018
	(\$ in Thousands)	
Allowance for Unfunded Commitments		
Balance at beginning of period	\$ 24,336	\$ 24,400
Provision for unfunded commitments	1,500	(2,500)
Amount recorded at acquisition	—	2,436
Balance at end of period	\$ 25,836	\$ 24,336

Loans Acquired in Acquisition

Loans acquired in a business combination are recorded at estimated fair value on their purchase date without a carryover of the related allowance for loan and lease losses. Acquired loans are segregated into two types:

- Performing loans are accounted for in accordance with ASC Topic 310-20 "Nonrefundable Fees and Other Costs" as these loans do not have evidence of credit deterioration since origination.
- Nonperforming loans are accounted for in accordance with ASC Topic 310-30 as they display significant credit deterioration since origination.

For performing loans the difference between the estimated fair value of the loans and the principal outstanding is accreted over the remaining life of the loans.

In accordance with ASC 310-30, purchased credit-impaired loans are pooled by loan type and the difference between contractually required payments at acquisition and the cash flows expected to be collected is referred to as the non-accretable difference. Further, any excess of cash flows expected at acquisition over the estimated fair value is referred to as the accretable yield and is recognized into interest income over the remaining life of the loan pools when there is a reasonable expectation

about the amount and timing of such cash flows. If a reasonable expectation on the amount or timing of such cash flows cannot be determined, accretion of the fair value discount for nonperforming loans will be recognized using the cost recovery method of accounting.

Changes in the accretible yield for loans acquired and accounted for under ASC Topic 310-30 were as follows for the three months ended March 31, 2019 and for the year ended December 31, 2018:

	Three Months Ended March 31, 2019		Year Ended December 31, 2018	
	(\$ in Thousands)			
Changes in Accretible Yield				
Balance at beginning of period	\$	1,482	\$	—
Purchases		—		4,853
Accretion		(221)		(4,954)
Net reclassification from non-accretible yield		23		1,605
Other ^(a)		—		(22)
Balance at end of period	\$	1,285	\$	1,482

(a) Primarily includes charge-offs which are accounted for under ASC Subtopic 310-30 "Receivables — Loans and Debt Securities Acquired with Deteriorated Credit Quality."

For loans acquired, the fair value of purchased credit-impaired loans, on the acquisition date, was determined based on assigned risk ratings, expected cash flows and the fair value of loan collateral. The fair value of loans that were non-impaired was determined based on estimates of losses on defaults and other market factors.

At March 31, 2019, the Corporation had a total of approximately \$18 million in net unaccreted purchase discount, of which approximately \$16 million was related to performing loans and approximately \$2 million was related to the Corporation's purchased credit-impaired loans.

Note 8 Goodwill and Other Intangible Assets

Goodwill

Goodwill is not amortized but is instead subject to impairment tests on at least an annual basis, and more frequently if an event occurs or circumstances change that would more likely than not reduce the fair value of a reporting unit below its carrying amount.

The Corporation conducted its most recent annual impairment testing in May 2018, utilizing a qualitative assessment. Factors that management considered in this assessment included macroeconomic conditions, industry and market considerations, overall financial performance of the Corporation and each reporting unit (both current and projected), changes in management strategy, and changes in the composition or carrying amount of net assets. In addition, management considered the changes in both the Corporation's common stock price and in the overall bank common stock index (based on the S&P 400 Regional Bank Sub-Industry Index), as well as the Corporation's earnings per common share trend over the past year. Based on these assessments, management concluded that it is more likely than not that the estimated fair value exceeded the carrying value (including goodwill) for each reporting unit. Therefore, a step one quantitative analysis was not required. There have been no events since the May 2018 impairment testing that have changed the Corporation's impairment assessment conclusion. There were no impairment charges recorded in 2018 or the first three months of 2019.

At both March 31, 2019 and December 31, 2018, the Corporation had goodwill of \$1.2 billion.

Other Intangible Assets

The Corporation has other intangible assets that are amortized, consisting of CDI, other intangibles (primarily related to customer relationships acquired in connection with the Corporation's insurance agency acquisitions), and mortgage servicing rights. For CDI and other intangibles, changes in the gross carrying amount, accumulated amortization, and net book value were as follows:

	Three Months Ended March 31, 2019		Year Ended December 31, 2018	
	(\$ in Thousands)			
Core deposit intangibles				
Gross carrying amount	\$	58,100	\$	58,100
Accumulated amortization		(6,778)		(5,326)
Net book value	\$	51,322	\$	52,774
Additions during the periods	\$	—	\$	58,100
Amortization during the year	\$	1,453	\$	5,326
Other intangibles				
Gross carrying amount	\$	44,887	\$	44,931
Reductions due to sale		—		(43)
Accumulated amortization		(22,599)		(21,825)
Net book value	\$	22,288	\$	23,062
Additions during the period	\$	—	\$	10,359
Amortization during the year	\$	774	\$	2,833

Mortgage Servicing Rights

The Corporation sells residential mortgage loans in the secondary market and typically retains the right to service the loans sold. MSR are amortized in proportion to and over the period of estimated net servicing income and assessed for impairment at each reporting date.

The Corporation evaluates its mortgage servicing rights asset for impairment at minimum on a quarterly basis. Impairment is assessed based on fair value at each reporting date using estimated prepayment speeds of the underlying mortgage loans serviced and stratifications based on the risk characteristics of the underlying loans (predominantly loan type and note interest rate). As mortgage interest rates fall, prepayment speeds are usually faster and the value of the mortgage servicing rights asset generally decreases, requiring additional valuation reserve. Conversely, as mortgage interest rates rise, prepayment speeds are usually slower and the value of the mortgage servicing rights asset generally increases, requiring less valuation reserve. A valuation allowance is established, through a charge to earnings, to the extent the amortized cost of the mortgage servicing rights exceeds the estimated fair value by stratification. If it is later determined that all or a portion of the temporary impairment no longer exists for a stratification, the valuation is reduced through a recovery to earnings. An other-than-temporary impairment (i.e., recoverability is considered remote when considering interest rates and loan pay off activity) is recognized as a write-down of the mortgage servicing rights asset and the related valuation allowance (to the extent a valuation allowance is available) and then against earnings. A direct write-down permanently reduces the carrying value of the mortgage servicing rights asset and valuation allowance, precluding subsequent recoveries. See Note 12 for a discussion of the recourse provisions on sold residential mortgage loans. See Note 13 which further discusses fair value measurement relative to the mortgage servicing rights asset.

A summary of changes in the balance of the mortgage servicing rights asset and the mortgage servicing rights valuation allowance is as follows:

	Three Months Ended March 31, 2019		Year Ended December 31, 2018	
	(\$ in Thousands)			
Mortgage servicing rights				
Mortgage servicing rights at beginning of period	\$	68,433	\$	59,168
Additions from acquisition		—		8,136
Additions		1,247		10,722
Amortization		(2,693)		(9,594)
Mortgage servicing rights at end of period	\$	66,987	\$	68,433
Valuation allowance at beginning of period		(239)		(784)
(Additions) recoveries, net		(121)		545
Valuation allowance at end of period		(360)		(239)
Mortgage servicing rights, net	\$	66,626	\$	68,193
Fair value of mortgage servicing rights	\$	73,858	\$	81,012
Portfolio of residential mortgage loans serviced for others (“servicing portfolio”)	\$	8,543,467	\$	8,600,983
Mortgage servicing rights, net to servicing portfolio		0.78%		0.79%
Mortgage servicing rights expense ^(a)	\$	2,814	\$	9,049

(a) Includes the amortization of mortgage servicing rights and additions / recoveries to the valuation allowance of mortgage servicing rights, and is a component of mortgage banking, net in the consolidated statements of income.

The projections of amortization expense are based on existing asset balances, the current interest rate environment, and prepayment speeds as of March 31, 2019. The actual amortization expense the Corporation recognizes in any given period may be significantly different depending upon acquisition or sale activities, changes in interest rates, prepayment speeds, market conditions, regulatory requirements, and events or circumstances that indicate the carrying amount of an asset may not be recoverable. The following table shows the estimated future amortization expense for amortizing intangible assets:

Estimated Amortization Expense	Core Deposit Intangibles		Other Intangibles		Mortgage Servicing Rights	
	(\$ in Thousands)					
Nine Months Ending December 31, 2019	\$	4,358	\$	2,050	\$	7,983
2020		5,810		2,707		11,032
2021		5,810		2,682		9,334
2022		5,810		2,659		7,848
2023		5,810		2,640		6,579
2024		5,810		2,620		5,507
Beyond 2024		17,914		6,931		18,703
Total Estimated Amortization Expense	\$	51,322	\$	22,288	\$	66,987

Note 9 Short and Long-Term Funding

The following table presents the components of short-term funding (funding with original contractual maturities of one year or less), long-term funding (funding with original contractual maturities greater than one year), and FHLB advances (funding based on original contractual maturities):

	March 31, 2019	December 31, 2018
	(\$ in Thousands)	
Short-Term Funding		
Federal funds purchased	\$ 13,090	\$ 19,710
Securities sold under agreements to repurchase	114,008	91,941
Federal funds purchased and securities sold under agreements to repurchase	127,098	111,651
Commercial paper	32,019	45,423
Total short-term funding	\$ 159,117	\$ 157,074
Long-Term Funding		
Corporation senior notes, at par, due 2019	\$ 250,000	\$ 250,000
Bank senior notes, at par, due 2021	300,000	300,000
Corporation subordinated notes, at par, due 2025	250,000	250,000
Other long-term funding and capitalized costs	(3,993)	(4,389)
Total long-term funding	796,007	795,611
Total short and long-term funding, excluding FHLB advances	\$ 955,123	\$ 952,685
FHLB Advances		
Short-term FHLB advances	\$ 20,000	\$ 900,000
Long-term FHLB advances	2,924,769	2,674,371
Total FHLB advances	\$ 2,944,769	\$ 3,574,371
Total short and long-term funding	\$ 3,899,893	\$ 4,527,056

Securities Sold Under Agreements to Repurchase ("Repurchase Agreements")

The Corporation enters into agreements under which it sells securities subject to an obligation to repurchase the same or similar securities. Under these arrangements, the Corporation may transfer legal control over the assets but still retain effective control through an agreement that both entitles and obligates the Corporation to repurchase the assets. The obligation to repurchase the securities is reflected as a liability on the Corporation's consolidated balance sheets, while the securities underlying the repurchase agreements remain in the respective investment securities asset accounts (i.e., there is no offsetting or netting of the investment securities assets with the repurchase agreement liabilities). See Note 11 for additional disclosures on balance sheet offsetting.

The Corporation utilizes securities sold under agreements to repurchase to facilitate the needs of its customers. As of March 31, 2019, the Corporation pledged agency mortgage-related securities with a fair value of \$171 million as collateral for the repurchase agreements. Securities pledged as collateral under repurchase agreements are maintained with the Corporation's safekeeping agents and are monitored on a daily basis due to the market risk of fair value changes in the underlying securities. The Corporation generally pledges excess securities to ensure there is sufficient collateral to satisfy short-term fluctuations in both the repurchase agreement balances and the fair value of the underlying securities.

The remaining contractual maturity of the securities sold under agreements to repurchase in the consolidated balance sheets as of March 31, 2019 and December 31, 2018 are presented in the following table:

	Remaining Contractual Maturity of the Agreements				
	Overnight and Continuous	Up to 30 days	30-90 days	Greater than 90 days	Total
	(\$ in Thousands)				
March 31, 2019					
Repurchase agreements					
Agency mortgage-related securities	\$ 114,008	\$ —	\$ —	\$ —	\$ 114,008
Total	\$ 114,008	\$ —	\$ —	\$ —	\$ 114,008
December 31, 2018					
Repurchase agreements					
Agency mortgage-related securities	\$ 91,941	\$ —	\$ —	\$ —	\$ 91,941
Total	\$ 91,941	\$ —	\$ —	\$ —	\$ 91,941

Long-Term Funding

Senior Notes

In August 2018, Associated Bank, N.A. issued \$300 million of senior notes, due August 2021, and callable July 2021. The senior notes have a fixed coupon interest rate of 3.50% and were issued at a discount.

In November 2014, the Corporation issued \$250 million of senior notes, due November 2019, and callable October 2019. The senior notes have a fixed coupon interest rate of 2.75% and were issued at a discount.

Subordinated Notes

In November 2014, the Corporation issued \$250 million of 10-year subordinated notes, due January 2025, and callable October 2024. The subordinated notes have a fixed coupon interest rate of 4.25% and were issued at a discount.

FHLB Advances

At March 31, 2019, the Corporation had \$2.9 billion of FHLB advances, down \$630 million from December 31, 2018.

As of March 31, 2019, the Corporation had \$2.8 billion of puttable FHLB advances with a one-time option where the FHLB can call the advance prior to the contractual maturity. The contractual weighted average life to the put date of these advances was 0.69 years, with put dates ranging from 2019 through 2020. The weighted average life to contractual maturity on these advances was 7.08 years, with those dates ranging from 2023 through 2028. As of March 31, 2019, it is anticipated that all of these advances will be called by the FHLB on their put date.

The original contractual maturity or next put date of the Corporation's FHLB advances as of March 31, 2019 and December 31, 2018 are presented in the following table:

	March 31, 2019		December 31, 2018	
	Amount	Weighted Average Contractual Coupon Rate	Amount	Weighted Average Contractual Coupon Rate
	(\$ in Thousands)			
Maturity or put date 1 year or less	\$ 2,232,703	2.79%	\$ 2,262,584	2.06%
After 1 but within 2	688,035	2.43%	1,285,039	2.39%
After 2 but within 3	16,064	3.22%	14,393	2.98%
After 3 years	7,968	3.78%	12,354	4.55%
FHLB advances and overall rate	\$ 2,944,769	2.71%	\$ 3,574,371	2.19%

Note 10 Derivative and Hedging Activities

The Corporation is exposed to certain risk arising from both its business operations and economic conditions. The Corporation principally manages its exposures to a wide variety of business and operational risks through management of its core business activities. The Corporation manages economic risks, including interest rate, liquidity, and credit risk primarily by managing the amount, sources, and duration of its assets and liabilities and the use of derivative financial instruments. Specifically, the Corporation enters into derivative financial instruments to manage exposures that arise from business activities that result in the receipt or payment of future known and uncertain cash amounts, the value of which are determined by interest rates. The Corporation's derivative financial instruments 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 the Corporation's assets.

The contract or notional amount of a derivative is used to determine, along with the other terms of the derivative, the amounts to be exchanged between the counterparties. The Corporation is exposed to credit risk in the event of nonperformance by counterparties to financial instruments. To mitigate the counterparty risk, interest rate and commodity-related instruments generally contain language outlining collateral pledging requirements for each counterparty. Collateral must be posted when the market value exceeds certain mutually agreed upon threshold limits. Federal regulations require the Corporation to clear all LIBOR interest rate swaps through a clearing house ("centrally cleared"), if possible. Securities are often pledged as collateral for centrally cleared interest rate swaps and derivatives. The Corporation pledged \$35 million of investment securities as collateral at March 31, 2019, and pledged \$36 million of investment securities as collateral at December 31, 2018. Cash is often pledged as collateral for interest rate swaps and derivatives that are not centrally cleared. At March 31, 2019, the Corporation posted \$32 million of cash collateral for the margin compared to \$1 million at December 31, 2018.

Fair Value Hedges of Interest Rate Risk

The Corporation is exposed to changes in the fair value of certain of its pools of prepayable fixed-rate assets due to changes in benchmark interest rates. The Corporation uses interest rate swaps to manage its exposure to changes in fair value on these instruments attributable to changes in the designated benchmark interest rate. Interest rate swaps designated as fair value hedges involve the payment of fixed-rate amounts to a counterparty in exchange for the Corporation receiving variable-rate payments over the life of the agreements without the exchange of the underlying notional amount.

For derivatives designated and that qualify as fair value hedges, the gain or loss on the derivative as well as the offsetting loss or gain on the hedged item attributable to the hedged risk are recognized in interest income.

Derivatives to Accommodate Customer Needs

The Corporation also facilitates customer borrowing activity by entering into various derivative contracts which are designated as free standing derivative contracts. Free standing derivative products are entered into primarily for the benefit of commercial customers seeking to manage their exposures to interest rate risk, foreign currency, and commodity prices. These derivative contracts are not designated against specific assets and liabilities on the consolidated balance sheets or forecasted transactions and, therefore, do not qualify for hedge accounting treatment. Such derivative contracts are carried at fair value on the consolidated balance sheets with changes in the fair value recorded as a component of capital markets, net, and typically include interest rate-related instruments (swaps and caps), foreign currency exchange forwards, and commodity contracts. See Note 11 for additional information and disclosures on balance sheet offsetting.

Interest rate-related instruments: The Corporation provides interest rate risk management services to commercial customers, primarily forward interest rate swaps and caps. The Corporation's market risk from unfavorable movements in interest rates related to these derivative contracts is generally economically hedged by concurrently entering into offsetting derivative contracts. The offsetting derivative contracts have identical notional values, terms and indices.

Foreign currency exchange forwards: The Corporation provides foreign currency exchange services to customers, primarily forward contracts. The Corporation's customers enter into a foreign currency exchange forward with the Corporation as a means for them to mitigate exchange rate risk. The Corporation mitigates its risk by then entering into an offsetting foreign currency exchange derivative contract.

Commodity contracts: Commodity contracts are entered into primarily for the benefit of commercial customers seeking to manage their exposure to fluctuating commodity prices. The Corporation mitigates its risk by then entering into an offsetting commodity derivative contract.

Mortgage Derivatives

Interest rate lock commitments to originate residential mortgage loans held for sale and forward commitments to sell residential mortgage loans are considered derivative instruments, and the fair value of these commitments is recorded on the consolidated balance sheets with the changes in fair value recorded as a component of mortgage banking, net.

Written and Purchased Options (Time Deposit)

Historically, the Corporation had entered into written and purchased option derivative instruments to facilitate an equity linked time deposit product (the “Power CD”), which the Corporation ceased offering in September 2013. The Power CD was a time deposit that provided the purchaser a guaranteed return of principal at maturity plus a potential equity return (a written option), while the Corporation received 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 balance sheets.

The table below identifies the consolidated balance sheets category and fair values of the Corporation’s derivative instruments:

(\$ in Thousands)	March 31, 2019			December 31, 2018		
	Notional Amount	Fair Value	Consolidated Balance Sheets Category	Notional Amount	Fair Value	Consolidated Balance Sheets Category
Derivatives not designated as hedging instruments						
Interest rate-related instruments — customer and mirror	\$ 2,726,738	\$ 54,479	Trading assets	\$ 2,707,204	\$ 52,796	Trading assets
Interest rate-related instruments — customer and mirror	2,726,738	(55,008)	Trading liabilities	2,707,204	(52,653)	Trading liabilities
Foreign currency exchange forwards	92,285	1,737	Trading assets	117,879	721	Trading assets
Foreign currency exchange forwards	103,238	(1,665)	Trading liabilities	69,153	(675)	Trading liabilities
Commodity contracts	284,655	21,705	Trading assets	331,727	35,426	Trading assets
Commodity contracts	284,656	(21,186)	Trading liabilities	315,861	(34,340)	Trading liabilities
Interest rate lock commitments (mortgage)	269,075	3,032	Other assets	191,222	2,208	Other assets
Forward commitments (mortgage)	191,112	(1,825)	Other liabilities	139,984	(2,072)	Other liabilities
Purchased options (time deposit)	7,885	156	Other assets	11,185	109	Other assets
Written options (time deposit)	7,885	(156)	Other liabilities	11,185	(109)	Other liabilities
Derivatives designated as hedging instruments						
Interest Rate Products	500,000	(128)	Other liabilities	500,000	(40)	Other liabilities

The following table presents amounts that were recorded on the consolidated balance sheets related to cumulative basis adjustment for fair value hedges:

(\$ in Thousands)	Line Item in the Statement of Financial Position in Which the Hedged Item is Included	
	Carrying Amount of the Hedged Assets/(Liabilities)	Cumulative Amount of Fair Value Hedging Adjustment Included in the Carrying Amount of the Hedged Assets/(Liabilities)
	March 31, 2019	
Loans and investment securities receivables ^(a)	\$ 501,555	\$ 1,555
Total	\$ 501,555	\$ 1,555

(a) These amounts include the amortized cost basis of closed portfolios used to designated hedging relationships in which the hedged item is the last layer expected to be remaining at the end of the hedging relationship. At March 31, 2019, the amortized cost basis of the closed portfolios used in these hedging relationships was \$1.1 billion; the positive cumulative basis adjustments associated with these hedging relationships was \$2 million; and the amounts of the designated hedged items were \$500 million.

The table below identifies the effect of fair value hedge accounting on the Corporation's consolidated statements of income during the three months ended March 31, 2019 and twelve months ended December 31, 2018:

(\$ in Thousands)	Location and Amount of Gain or (Loss) Recognized in Income on Fair Value and Cash Flow Hedging Relationships			
	Three Months Ended March 31, 2019		Year Ended December 31, 2018	
	Interest Income	Other Income (Expense)	Interest Income	Other Income (Expense)
Total amounts of income and expense line items presented in the consolidated statements of income in which the effects of fair value or cash flow hedges are recorded	\$ 166	\$ —	\$ (1,325)	\$ —
The effects of fair value and cash flow hedging: Gain or (loss) on fair value hedging relationships in Subtopic 815-20				
Interest contracts				
Hedged items	2,057	—	(502)	—
Derivatives designated as hedging instruments ^(a)	(1,891)	—	(823)	—

(a) Includes net settlements on the derivatives.

The table below identifies the effect of derivatives not designated as hedging instruments on the Corporation's consolidated statements of income during the three months ended March 31, 2019 and 2018:

(\$ in Thousands)	Consolidated Statements of Income Category of Gain / (Loss) Recognized in Income	For the Three Months Ended March 31,	
		2019	2018
Derivative Instruments			
Interest rate-related instruments — customer and mirror, net	Capital markets, net	\$ (672)	\$ 492
Foreign currency exchange forwards	Capital markets, net	26	(28)
Commodity contracts	Capital markets, net	(567)	164
Interest rate lock commitments (mortgage)	Mortgage banking, net	824	1,494
Forward commitments (mortgage)	Mortgage banking, net	247	10

Note 11 Balance Sheet Offsetting

Interest Rate-Related Instruments and Commodity Contracts (“Interest and Commodity Agreements”)

The Corporation enters into interest rate-related instruments to facilitate the interest rate risk management strategies of commercial customers. The Corporation also enters into commodity contracts to manage commercial customers' exposure to fluctuating commodity prices. The Corporation mitigates these risks by entering into equal and offsetting interest and commodity agreements with highly rated third party financial institutions. The Corporation is party to master netting arrangements with its financial institution counterparties that create single net settlements of all legal claims or obligations to pay or receive the net amount of settlement of the individual interest and commodity agreements. Collateral, usually in the form of investment securities and cash, is posted by the counterparty with net liability positions in accordance with contract thresholds. The Corporation does not offset assets and liabilities under these arrangements for financial statement presentation purposes. See Note 10 for additional information on the Corporation's derivative and hedging activities.

Securities Sold Under Agreements to Repurchase (“Repurchase Agreements”)

The Corporation enters into agreements under which it sells securities subject to an obligation to repurchase the same or similar securities. These repurchase agreements are accounted for as collateralized financing arrangements (i.e., secured borrowings) and not as a sale and subsequent repurchase of securities (i.e., there is no offsetting or netting of the investment securities assets with the repurchase agreement liabilities). The right of set-off for a repurchase agreement resembles a secured borrowing, whereby the collateral would be used to settle the fair value of the repurchase agreement should the Corporation be in default (e.g., fails to make an interest payment to the counterparty). In addition, the Corporation does not enter into reverse repurchase agreements; therefore, there is no such offsetting to be done with the repurchase agreements. See Note 9 for additional disclosures on repurchase agreements.

The following table presents the assets and liabilities subject to an enforceable master netting arrangement. The interest and commodity agreements the Corporation has with its commercial customers are not subject to an enforceable master netting arrangement and are therefore excluded from this table:

(\$ in Thousands)	Gross amounts of recognized assets	Gross amounts offset in the balance sheet	Net amounts presented in the balance sheet	Gross amounts not offset in the consolidated balance sheets		Net amount
				Derivative liability available for offset	Collateral received	
Derivative assets^(a)						
March 31, 2019	\$ 25,486	\$ —	\$ 25,486	\$ (24,210)	\$ (1,044)	\$ 232
December 31, 2018	65,596	—	65,596	(22,873)	(41,879)	843

(\$ in Thousands)	Gross amounts of recognized liabilities	Gross amounts offset in the balance sheet	Net amounts presented in the balance sheet	Gross amounts not offset in the consolidated balance sheets		Net amount
				Derivative asset available for offset	Collateral pledged	
Derivative liabilities^(b)						
March 31, 2019	\$ 52,768	\$ —	\$ 52,768	\$ (24,210)	\$ (25,889)	\$ 2,669
December 31, 2018	22,951	—	22,951	(22,873)	(63)	16

(a) Includes interest and commodity instrument assets.

(b) Includes interest and commodity instrument liabilities.

Note 12 Commitments, Off-Balance Sheet Arrangements, Legal Proceedings and Regulatory Matters

The Corporation utilizes a variety of financial instruments in the normal course of business to meet the financial needs of its customers and to manage its own exposure to fluctuations in interest rates. These financial instruments include lending-related and other commitments (see below) as well as derivative instruments (see Note 10). The following is a summary of lending-related commitments:

	March 31, 2019	December 31, 2018
	(\$ in Thousands)	
Commitments to extend credit, excluding commitments to originate residential mortgage loans held for sale ^{(a)(b)}	\$ 8,687,001	\$ 8,720,293
Commercial letters of credit ^(a)	6,192	7,599
Standby letters of credit ^(c)	256,389	255,904

(a) These off-balance sheet financial instruments are exercisable at the market rate prevailing at the date the underlying transaction will be completed and, thus, are deemed to have no current fair value, or the fair value is based on fees currently charged to enter into similar agreements and is not material at March 31, 2019 or December 31, 2018.

(b) Interest rate lock commitments to originate residential mortgage loans held for sale are considered derivative instruments and are disclosed in Note 10.

(c) The Corporation has established a liability of \$2 million at both March 31, 2019 and December 31, 2018, as an estimate of the fair value of these financial instruments.

Lending-related Commitments

As a financial services provider, the Corporation routinely enters into commitments to extend credit. Such commitments are subject to the same credit policies and approval process accorded to loans made by the Corporation, with each customer’s creditworthiness evaluated on a case-by-case basis. The commitments generally have fixed expiration dates or other termination clauses and may require the payment of a fee. The Corporation’s exposure to credit loss in the event of nonperformance by the other party to these financial instruments is represented by the contractual amount of those instruments. The amount of collateral obtained, if deemed necessary by the Corporation upon extension of credit, is based on management’s credit evaluation of the customer. Since a significant portion of commitments to extend credit are subject to specific restrictive loan covenants or may expire without being drawn upon, the total commitment amounts do not necessarily represent future cash flow requirements. An allowance for unfunded commitments is maintained at a level believed by management to be sufficient to absorb estimated probable losses related to unfunded commitments (including unfunded loan commitments and

letters of credit). The allowance for unfunded commitments totaled \$26 million at March 31, 2019 and \$24 million at December 31, 2018, and is included in accrued expenses and other liabilities on the consolidated balance sheets.

Lending-related commitments include commitments to extend credit, commitments to originate residential mortgage loans held for sale, commercial letters of credit, and standby letters of credit. Commitments to extend credit are legally binding agreements to lend to customers at predetermined interest rates, as long as there is no violation of any condition established in the contracts. Interest rate lock commitments to originate residential mortgage loans held for sale and forward commitments to sell residential mortgage loans are considered derivative instruments, and the fair value of these commitments is recorded on the consolidated balance sheets. The Corporation's derivative and hedging activity is further described in Note 10. Commercial and standby letters of credit are conditional commitments issued to guarantee the performance of a customer to a third party. Commercial letters of credit are issued specifically to facilitate commerce and typically result in the commitment being drawn on when the underlying transaction is consummated between the customer and the third party, while standby letters of credit generally are contingent upon the failure of the customer to perform according to the terms of the underlying contract with the third party.

Other Commitments

The Corporation invests in qualified affordable housing projects, federal and state historic projects, and new market projects for the purpose of community reinvestment and obtaining tax credits and other tax benefits. 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 aggregate carrying value of these investments at March 31, 2019 was \$169 million, compared to \$136 million at December 31, 2018, included in investment in unconsolidated subsidiaries on the consolidated balance sheets. The Corporation utilizes the proportional amortization method to account for investments in qualified affordable housing 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 additional income tax expense attributable to the amortization of investments in qualified affordable housing projects of \$5 million for both the three months ended March 31, 2019 and 2018. The Corporation's remaining investment in qualified affordable housing projects accounted for under the proportional amortization method totaled \$160 million at March 31, 2019 and \$132 million at December 31, 2018.

The Corporation's unfunded equity contributions relating to investments in qualified affordable housing, federal and state historic projects, and new market projects are recorded in accrued expenses and other liabilities on the consolidated balance sheets. The Corporation's remaining unfunded equity contributions totaled \$73 million and \$51 million at March 31, 2019 and December 31, 2018, respectively.

For the three months ended March 31, 2019 and the year ended December 31, 2018, the Corporation did not record any impairment related to qualified affordable housing investments.

The Corporation has principal investment commitments to provide capital-based financing to private and public companies through either direct investments in specific companies or through investment funds and partnerships. The timing of future cash requirements to fund such principal investment commitments is generally dependent on the investment cycle, whereby privately held companies are funded by private equity investors and ultimately sold, merged, or taken public through an initial offering, which can vary based on overall market conditions, as well as the nature and type of industry in which the companies operate. The Corporation also invests in loan pools that support CRA loans. The timing of future cash requirements to fund these pools is dependent upon loan demand, which can vary over time. The aggregate carrying value of these investments was \$25 million at both March 31, 2019 and December 31, 2018, included in investment in unconsolidated subsidiaries on the consolidated balance sheets.

Legal Proceedings

The Corporation is party to various pending and threatened claims and legal proceedings arising in the normal course of business activities, some of which involve claims for substantial amounts. Although there can be no assurance as to the ultimate outcomes, the Corporation believes it has meritorious defenses to the claims asserted against it in its currently outstanding matters, including the matters described below, and with respect to such legal proceedings, intends to continue to defend itself vigorously. The Corporation will consider settlement of cases when, in management's judgment, it is in the best interests of both the Corporation and its shareholders.

On at least a quarterly basis, the Corporation assesses its liabilities and contingencies in connection with all pending or threatened claims and litigation, utilizing the most recent information available. On a matter by matter basis, an accrual for loss is established for those matters which the Corporation believes it is probable that a loss may be incurred and that the amount of such loss can be reasonably estimated. Once established, each accrual is adjusted as appropriate to reflect any subsequent

developments. Accordingly, management’s estimate will change from time to time, and actual losses may be more or less than the current estimate. For matters where a loss is not probable, or the amount of the loss cannot be estimated, no accrual is established.

Resolution of legal claims is inherently unpredictable, and in many legal proceedings various factors exacerbate this inherent unpredictability, including where the damages sought are unsubstantiated or indeterminate, it is unclear whether a case brought as a class action will be allowed to proceed on that basis, discovery is not complete, the proceeding is not yet in its final stages, the matters present legal uncertainties, there are significant facts in dispute, there are a large number of parties (including where it is uncertain how liability, if any, will be shared among multiple defendants), or there is a wide range of potential results.

The Corporation does not believe it is presently subject to any legal proceedings the resolution of which would have a material adverse effect on our business, financial condition, operating results or cash flows.

Regulatory Matters

A variety of consumer products, including mortgage and deposit products, and certain fees and charges related to such products, have come under increased regulatory scrutiny. It is possible that regulatory authorities could bring enforcement actions, including civil money penalties, or take other actions against the Corporation and the Bank in regard to these consumer products. The Bank could also determine of its own accord, or be required by regulators, to refund or otherwise make remediation payments to customers in connection with these products. It is not possible at this time for management to assess the probability of a material adverse outcome or reasonably estimate the amount of any potential loss related to such matters.

Mortgage Repurchase Reserve

The Corporation sells residential mortgage loans to investors in the normal course of business. Residential mortgage loans sold to others are predominantly conventional residential first lien mortgages originated under the Corporation’s usual underwriting procedures, and are most often sold on a nonrecourse basis, primarily to the GSEs. The Corporation’s agreements to sell residential mortgage loans in the normal course of business usually require certain representations and warranties on the underlying loans sold, related to credit information, loan documentation, collateral, and insurability. Subsequent to being sold, if a material underwriting deficiency or documentation defect is discovered, the Corporation may be obligated to repurchase the loan or reimburse the GSEs for losses incurred (collectively, “make whole requests”). The make whole requests and any related risk of loss under the representations and warranties are largely driven by borrower performance.

As a result of make whole requests, the Corporation has repurchased loans with principal balances of approximately \$305 thousand during the three months ended March 31, 2019 and \$2 million for the year ended December 31, 2018. The loss reimbursement and settlement claims paid for the three months ended March 31, 2019 and for the year ended December 31, 2018 were negligible. Make whole requests during 2018 and the first three months of 2019 generally arose from loans sold during the period of January 1, 2012 to December 31, 2018. Since January 1, 2012, loans sold totaled \$11.3 billion at the time of sale, and consisted primarily of loans sold to GSEs. As of March 31, 2019, approximately \$7.3 billion of these sold loans remain outstanding.

The balance in the mortgage repurchase reserve at the balance sheet date reflects the estimated amount of potential loss the Corporation could incur from repurchasing a loan, as well as loss reimbursements, indemnifications, and other settlement resolutions. The following summarizes the changes in the mortgage repurchase reserve for the three months ended March 31, 2019 and for the year ended December 31, 2018:

	Three Months Ended March 31, 2019		Year Ended December 31, 2018	
	(\$ in Thousands)			
Balance at beginning of period	\$	752	\$	987
Repurchase provision expense		48		345
Adjustments to provision expense		—		(450)
Charge offs, net		(70)		(218)
Amount recorded at acquisition		—		88
Balance at end of period	\$	730	\$	752

The Corporation may also sell residential mortgage loans with limited recourse (limited in that the recourse period ends prior to the loan’s maturity, usually after certain time and / or loan paydown criteria have been met), whereby repurchase could be required if the loan had defined delinquency issues during the limited recourse periods. At March 31, 2019 and December 31, 2018, there were approximately \$31 million and \$47 million, respectively, of residential mortgage loans sold with such

recourse risk. There have been limited instances and immaterial historical losses on repurchases for recourse under the limited recourse criteria.

The Corporation has a subordinate position to the FHLB in the credit risk on residential mortgage loans it sold to the FHLB in exchange for a monthly credit enhancement fee. The Corporation has not sold loans to the FHLB with such credit risk retention since February 2005. At March 31, 2019 and December 31, 2018, there were \$54 million and \$57 million, respectively, of such residential mortgage loans with credit risk recourse, upon which there have been negligible historical losses to the Corporation.

Note 13 Fair Value Measurements

Fair value represents the estimated price at which an orderly transaction to sell an asset or to transfer a liability would take place between market participants at the measurement date under current market conditions (i.e., an exit price concept).

Following is a description of the valuation methodologies used for the Corporation's more significant instruments measured on a recurring basis at fair value, including the general classification of such instruments pursuant to the valuation hierarchy.

Assets and Liabilities Measured at Fair Value on a Recurring Basis

Investment Securities Available for Sale: Where quoted prices are available in an active market, investment securities are classified in Level 1 of the fair value hierarchy. If quoted market prices are not available for the specific security, then fair values are estimated by using pricing models, quoted prices of securities with similar characteristics or discounted cash flows, with consideration given to the nature of the quote and the relationship of recently evidenced market activity to the fair value estimate, and are classified in Level 2 of the fair value hierarchy. Lastly, in certain cases where there is limited activity or less transparency around inputs to the estimated fair value, securities are classified within Level 3 of the fair value hierarchy. To validate the fair value estimates, assumptions, and controls, the Corporation looks to transactions for similar instruments and utilizes independent pricing provided by third party vendors or brokers and relevant market indices. While none of these sources are solely indicative of fair value, they serve as directional indicators for the appropriateness of the Corporation's fair value estimates. The Corporation has determined that the fair value measures of its investment securities are classified predominantly within Level 2 of the fair value hierarchy. See Note 6 for additional disclosure regarding the Corporation's investment securities.

Equity Securities with Readily Determinable Fair Values: The Corporation's portfolio of equity securities is primarily comprised of CRA Qualified Investment mutual funds. Since quoted prices for the Corporation's equity securities are readily available in an active market, they are classified in Level 1 of the fair value hierarchy. See Note 6 for additional disclosure regarding the Corporation's investment securities.

Residential Loans Held for Sale: Residential loans held for sale, which consist generally of current production of certain fixed-rate, first-lien residential mortgage loans, are carried at estimated fair value. Management has elected the fair value option to account for all newly originated mortgage loans held for sale, which results in the financial impact of changing market conditions being reflected currently in earnings as opposed to being dependent upon the timing of sales. Therefore, the continually adjusted values better reflect the price the Corporation expects to receive from the sale of such loans. The estimated fair value is based on what secondary markets are currently offering for portfolios with similar characteristics, which the Corporation classifies as a Level 2 fair value measurement.

Derivative Financial Instruments (Interest Rate-Related Instruments): The Corporation utilizes interest rate swaps to hedge exposure to interest rate risk and variability of fair value related to changes in the underlying interest rate of the hedged item. These hedged interest rate swaps are classified as fair value hedges. See Note 10 for additional disclosure regarding the Corporation's fair value hedges.

In addition, the Corporation offers interest rate-related instruments (swaps and caps) to service its customers' needs, for which the Corporation simultaneously enters into offsetting derivative financial instruments (i.e., mirror interest rate-related instruments) with third parties to manage its interest rate risk associated with these financial instruments. The valuation of the Corporation's derivative financial instruments is determined using discounted cash flow analysis on the expected cash flows of each derivative and also includes a nonperformance / credit risk component (credit valuation adjustment). See Note 10 for additional disclosure regarding the Corporation's interest rate-related instruments.

The discounted cash flow analysis component in the fair value measurement reflects the contractual terms of the derivative financial instruments, including the period to maturity, and uses observable market-based inputs, including interest rate curves and implied volatilities. More specifically, the fair values of interest rate swaps are determined using the market standard methodology of netting the discounted future fixed cash receipts (or payments) with the variable cash payments (or receipts) based on an expectation of future interest rates (forward curves) derived from observable market interest rate curves. Likewise,

the fair values of interest rate options (i.e., interest rate caps) are determined using the market standard methodology of discounting the future expected cash receipts that would occur if variable interest rates fall below (or rise above) the strike rate of the floors (or caps), with the variable interest rates used in the calculation of projected receipts on the floor (or cap) based on an expectation of future interest rates derived from observable market interest rate curves and volatilities.

The Corporation also incorporates credit valuation adjustments to appropriately reflect both its own nonperformance risk and the respective counterparty's nonperformance risk in the fair value measurements. In adjusting the fair value of its derivative financial instruments for the effect of nonperformance risk, the Corporation has considered the impact of netting and any applicable credit enhancements, such as collateral postings, thresholds, mutual puts, and guarantees.

While the Corporation has determined that the majority of the inputs used to value its derivative financial instruments fall within Level 2 of the fair value hierarchy, the credit valuation adjustments utilize Level 3 inputs, such as estimates of current credit spreads to evaluate the likelihood of default by itself and its counterparties. The Corporation has assessed the significance of the impact of the credit valuation adjustments on the overall valuation of its derivative positions as of March 31, 2019, and December 31, 2018, and has determined that the credit valuation adjustments are not significant to the overall valuation of its derivative financial instruments. Therefore, the Corporation has determined that the fair value measures of its derivative financial instruments in their entirety are classified within Level 2 of the fair value hierarchy.

Derivative Financial Instruments (Foreign Currency Exchange Forwards): The Corporation provides foreign currency exchange services to customers. In addition, the Corporation may enter into a foreign currency exchange forward to mitigate the exchange rate risk attached to the cash flows of a loan or as an offsetting contract to a forward entered into as a service to its customer. The valuation of the Corporation's foreign currency exchange forwards is determined using quoted prices of foreign currency exchange forwards with similar characteristics, with consideration given to the nature of the quote and the relationship of recently evidenced market activity to the fair value estimate, and is classified in Level 2 of the fair value hierarchy. See Note 10 for additional disclosures regarding the Corporation's foreign currency exchange forwards.

Derivative Financial Instruments (Commodity Contracts): The Corporation enters into commodity contracts to manage commercial customers' exposure to fluctuating commodity prices, for which the Corporation simultaneously enters into offsetting derivative financial instruments (i.e., mirror commodity contracts) with third parties to manage its risk associated with these financial instruments. The valuation of the Corporation's commodity contracts is determined using quoted prices of the underlying instruments, and also includes a nonperformance / credit risk component (credit valuation adjustment). See Note 10 for additional disclosures regarding the Corporation's commodity contracts.

The Corporation also incorporates credit valuation adjustments to appropriately reflect both its own nonperformance risk and the respective counterparty's nonperformance risk in the fair value measurements. In adjusting the fair value of its derivative financial instruments for the effect of nonperformance risk, the Corporation has considered the impact of netting and any applicable credit enhancements, such as collateral postings.

While the Corporation has determined that the majority of the inputs used to value its derivative financial instruments fall within Level 2 of the fair value hierarchy, the credit valuation adjustments utilize Level 3 inputs, such as estimates of current credit spreads to evaluate the likelihood of default by itself and its counterparties. The Corporation has assessed the significance of the impact of the credit valuation adjustments on the overall valuation of its derivative positions as of March 31, 2019, and December 31, 2018, and has determined that the credit valuation adjustments are not significant to the overall valuation of its derivative financial instruments. Therefore, the Corporation has determined that the fair value measures of its derivative financial instruments in their entirety are classified within Level 2 of the fair value hierarchy.

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The table below presents the Corporation's financial instruments measured at fair value on a recurring basis as of March 31, 2019 and December 31, 2018, aggregated by the level in the fair value hierarchy within which those measurements fall:

	Fair Value Hierarchy	March 31, 2019	December 31, 2018
(\$ in Thousands)			
Assets			
Investment securities available for sale			
U.S. Treasury securities	Level 1	\$ —	\$ 999
Residential mortgage-related securities			
FNMA / FHLMC	Level 2	242,074	295,252
GNMA	Level 2	2,038,100	2,128,531
Private-label	Level 2	878	1,003
Commercial mortgage-related securities			
FNMA / FHLMC	Level 2	20,655	—
GNMA	Level 2	1,247,782	1,220,797
FFELP asset backed securities	Level 2	276,899	297,360
Other debt securities	Level 2	3,000	3,000
Total investment securities available for sale	Level 1	—	999
Total investment securities available for sale	Level 2	3,829,388	3,945,943
Equity securities with readily determinable fair values	Level 1	1,609	1,568
Residential loans held for sale	Level 2	81,392	64,321
Commercial loans held for sale	Level 2	15,467	14,943
Interest rate-related instruments	Level 2	54,479	52,796
Foreign currency exchange forwards	Level 2	1,737	721
Interest rate lock commitments to originate residential mortgage loans held for sale	Level 3	3,032	2,208
Commodity contracts	Level 2	21,705	35,426
Purchased options (time deposit)	Level 2	156	109
Liabilities			
Interest rate-related instruments	Level 2	\$ 55,008	\$ 52,653
Foreign currency exchange forwards	Level 2	1,665	675
Forward commitments to sell residential mortgage loans	Level 3	1,825	2,072
Commodity contracts	Level 2	21,186	34,340
Written options (time deposit)	Level 2	156	109
Interest rate products (designated as hedging instruments)	Level 2	128	40

The table below presents a rollforward of the consolidated balance sheets amounts for the three months ended March 31, 2019 and the year ended December 31, 2018, for financial instruments measured on a recurring basis and classified within Level 3 of the fair value hierarchy:

	Derivative Financial Instruments	
	(\$ in Thousands)	
Balance December 31, 2017	\$	1,225
Total net gains (losses) included in income		
Mortgage derivative gain (loss)		(1,085)
Balance December 31, 2018	\$	140
Total net gains (losses) included in income		
Mortgage derivative gain (loss)		1,072
Balance March 31, 2019	\$	1,211

For Level 3 assets and liabilities measured at fair value on a recurring basis as of March 31, 2019, the Corporation utilized the following valuation techniques and significant unobservable inputs:

Derivative Financial Instruments (Mortgage Derivative — Interest Rate Lock Commitments to Originate Residential Mortgage Loans Held for Sale): The fair value is determined by the change in value from each loan’s rate lock date to the expected rate lock expiration date based on the underlying loan attributes, estimated closing ratios, and investor price matrix determined to be reasonably applicable to each loan commitment. The closing ratio calculation takes into consideration historical experience and loan-level attributes, particularly the change in the current interest rates from the time of initial rate lock. The closing ratio is periodically reviewed for reasonableness and reported to the Associated Mortgage Risk Management Committee. At March 31, 2019, the closing ratio was 85%.

Derivative Financial Instruments (Mortgage Derivative — Forward Commitments to Sell Mortgage Loans): Mortgage derivatives include forward commitments to deliver closed-end residential mortgage loans into conforming Agency Mortgage-Backed Securities or conforming Cash Forward sales. The fair value of such instruments is determined by the difference of current market prices for such traded instruments or available from forward cash delivery commitments and the original traded price for such commitments.

The Corporation also relies on an internal valuation model to estimate the fair value of its forward commitments to sell residential mortgage loans (i.e., an estimate of what the Corporation would receive or pay to terminate the forward delivery contract based on market prices for similar financial instruments), which includes matching specific terms and maturities of the forward commitments against applicable investor pricing available. While there are Level 2 and 3 inputs used in the valuation models, the Corporation has determined that the majority of the inputs significant in the valuation of both of the mortgage derivatives fall within Level 3 of the fair value hierarchy. See Note 10 for additional disclosure regarding the Corporation’s mortgage derivatives.

Assets and Liabilities Measured at Fair Value on a Nonrecurring Basis

Following is a description of the valuation methodologies used for the Corporation’s more significant instruments measured on a nonrecurring basis at the lower of amortized cost or estimated fair value, including the general classification of such instruments pursuant to the valuation hierarchy.

Commercial Loans Held for Sale: Commercial loans held for sale are carried at the lower of cost or estimated fair value. The estimated fair value is based on a discounted cash flow analysis, which the Corporation classifies as a Level 2 nonrecurring fair value measurement.

Other Real Estate Owned: Certain other real estate owned, upon initial recognition, was re-measured and reported at fair value through a charge off to the allowance for loan losses based upon the estimated fair value of the other real estate owned, less estimated selling costs. The fair value of other real estate owned, upon initial recognition or subsequent impairment, was estimated using appraised values, which the Corporation classifies as a Level 2 nonrecurring fair value measurement.

For Level 3 assets and liabilities measured at fair value on a nonrecurring basis as of March 31, 2019, the Corporation utilized the following valuation techniques and significant unobservable inputs:

Impaired Loans: The Corporation considers a loan impaired when it is probable that the Corporation will be unable to collect all amounts due according to the original contractual terms of the note agreement, including both principal and interest. Management has determined that commercial and consumer loan relationships that have nonaccrual status or have had their terms restructured in a troubled debt restructuring meet this impaired loan definition. For individually evaluated impaired loans, the amount of impairment is based upon the present value of expected future cash flows discounted at the loan’s effective interest rate, the estimated fair value of the underlying collateral for collateral-dependent loans, or the estimated liquidity of the note. See Note 7 for additional information regarding the Corporation’s impaired loans.

Mortgage Servicing Rights: MSR do not trade in an active, open market with readily observable prices. While sales of mortgage servicing rights do occur, the precise terms and conditions typically are not readily available to allow for a “quoted price for similar assets” comparison. Accordingly, the Corporation utilizes an independent valuation from a third party which uses a discounted cash flow model to estimate the fair value of its mortgage servicing rights. The valuation model incorporates prepayment assumptions to project mortgage servicing rights cash flows based on the current interest rate scenario, which is then discounted to estimate an expected fair value of the mortgage servicing rights. The valuation model considers portfolio characteristics of the underlying mortgages, contractually specified servicing fees, prepayment assumptions, discount rate assumptions, delinquency rates, late charges, other ancillary revenue, costs to service, and other economic factors. The Corporation periodically reviews and assesses the underlying inputs and assumptions used in the model. In addition, the Corporation compares its fair value estimates and assumptions to observable market data for mortgage servicing rights, where available, and to recent market activity and actual portfolio experience. Due to the nature of the valuation inputs, mortgage servicing rights are classified within Level 3 of the fair value hierarchy. The Corporation uses the amortization method (i.e., lower of amortized cost or estimated fair value measured on a nonrecurring basis), not fair value measurement accounting, for its mortgage servicing rights assets.

The discounted cash flow analyses that generate expected market prices utilize the observable characteristics of the mortgage servicing rights portfolio, as well as certain unobservable valuation parameters. The significant unobservable inputs used in the fair value measurement of the Corporation’s mortgage servicing rights are the weighted average constant prepayment rate and weighted average discount rate. Significant increases (decreases) in any of those inputs in isolation could result in a significantly lower (higher) fair value measurement.

These parameter assumptions fall within a range that the Corporation, in consultation with an independent third party, believes purchasers of servicing would apply to such portfolios sold into the current secondary servicing market. Discussions are held with members from Treasury and the Community, Consumer, and Business segment to reconcile the fair value estimates and the key assumptions used by the respective parties in arriving at those estimates. The Associated Mortgage Risk Management Committee is responsible for providing control over the valuation methodology and key assumptions. To assess the reasonableness of the fair value measurement, the Corporation also compares the fair value and constant prepayment rate to a value calculated by an independent third party on an annual basis. See Note 8 for additional disclosure regarding the Corporation’s mortgage servicing rights.

The table below presents the Corporation’s assets measured at fair value on a nonrecurring basis, aggregated by the level in the fair value hierarchy within which those measurements fall:

(\$ in Thousands)	Fair Value Hierarchy	Fair Value	Consolidated Statements of Income Category of Adjustment Recognized in Income	Adjustment Recognized in the Consolidated Statements of Income
March 31, 2019				
Assets				
Impaired loans ^(a)	Level 3	\$ 52,831	Provision for credit losses ^(b)	\$ (18,529)
Other real estate owned ^(c)	Level 2	183	Foreclosure / OREO expense, net	(148)
Mortgage servicing rights	Level 3	73,858	Mortgage banking, net	(121)
December 31, 2018				
Assets				
Impaired loans ^(a)	Level 3	\$ 26,191	Provision for credit losses ^(b)	\$ (14,521)
Other real estate owned ^(c)	Level 2	2,200	Foreclosure / OREO expense, net	(1,545)
Mortgage servicing rights	Level 3	81,012	Mortgage banking, net	545

(a) Represents individually evaluated impaired loans, net of the related allowance for loan losses.

(b) Represents provision for credit losses on individually evaluated impaired loans.

(c) If the fair value of the collateral exceeds the carrying amount of the asset, no charge off or adjustment is necessary, the asset is not considered to be carried at fair value, and is therefore not included in the table.

Certain nonfinancial assets and nonfinancial liabilities measured at fair value on a nonrecurring basis include the fair value analysis in the second step of a goodwill impairment test, and intangible assets and other nonfinancial long-lived assets measured at fair value for impairment assessment.

The Corporation's significant Level 3 measurements which employ unobservable inputs that are readily quantifiable pertain to mortgage servicing rights and impaired loans.

The table below presents information about these inputs and further discussion is found above:

March 31, 2019	Valuation Technique	Significant Unobservable Input	Weighted Average Input Applied
Mortgage servicing rights	Discounted cash flow	Discount rate	11%
Mortgage servicing rights	Discounted cash flow	Constant prepayment rate	12%
Impaired Loans	Appraisals / Discounted cash flow	Collateral / Discount factor	27%

Fair Value of Financial Instruments

The Corporation is required to disclose estimated fair values for its financial instruments.

Fair value estimates are set forth below for the Corporation's financial instruments:

	Fair Value Hierarchy Level	March 31, 2019		December 31, 2018	
		Carrying Amount	Fair Value	Carrying Amount	Fair Value
(\$ in Thousands)					
Financial assets					
Cash and due from banks	Level 1	\$ 334,095	\$ 334,095	\$ 507,187	\$ 507,187
Interest-bearing deposits in other financial institutions	Level 1	270,843	270,843	221,226	221,226
Federal funds sold and securities purchased under agreements to resell	Level 1	41,405	41,405	148,285	148,285
Investment securities held to maturity	Level 1	999	1,007	—	—
Investment securities held to maturity	Level 2	2,845,690	2,867,864	2,740,511	2,710,271
Investment securities available for sale	Level 1	—	—	999	999
Investment securities available for sale	Level 2	3,829,388	3,829,388	3,945,943	3,945,943
Equity securities with readily determinable fair values	Level 1	1,609	1,609	1,568	1,568
FHLB and Federal Reserve Bank stocks	Level 2	216,940	216,940	250,534	250,534
Residential loans held for sale	Level 2	81,392	81,392	64,321	64,321
Commercial loans held for sale	Level 2	15,467	15,467	14,943	14,943
Loans, net	Level 3	22,913,278	22,626,091	22,702,406	22,317,395
Bank and corporate owned life insurance	Level 2	665,976	665,976	663,203	663,203
Derivatives (trading assets)	Level 2	77,920	77,920	88,943	88,943
Derivatives (other assets)	Level 2	156	156	109	109
Interest rate lock commitments to originate residential mortgage loans held for sale	Level 3	3,032	3,032	2,208	2,208
Financial liabilities					
Noninterest-bearing demand, savings, interest-bearing demand, and money market accounts	Level 3	\$ 21,781,392	\$ 21,781,392	\$ 22,081,992	\$ 22,081,992
Brokered CDs and other time deposits ^(a)	Level 2	3,751,665	3,751,665	2,815,401	2,815,401
Short-term funding ^(b)	Level 2	179,117	179,117	1,057,074	1,057,074
Long-term funding	Level 2	3,720,776	3,761,004	3,469,982	3,492,174
Standby letters of credit ^(c)	Level 2	2,478	2,478	2,482	2,482
Derivatives (trading liabilities)	Level 2	77,859	77,859	87,668	87,668
Derivatives (other liabilities)	Level 2	284	284	149	149
Forward commitments to sell residential mortgage loans	Level 3	1,825	1,825	2,072	2,072

(a) When the estimated fair value is less than the carrying value, the carrying value is reported as the fair value.

(b) The carrying amount is a reasonable estimate of fair value for existing short-term funding.

(c) The commitment on standby letters of credit was \$256 million at both March 31, 2019 and December 31, 2018. See Note 12 for additional information on the standby letters of credit and for information on the fair value of lending-related commitments.

Note 14 Retirement Plans

The Corporation has a noncontributory defined benefit retirement account plan, the RAP, covering substantially all employees who meet participation requirements. The benefits are based primarily on years of service and the employee's compensation paid. Employees of acquired entities generally participate in the RAP after consummation of the business combinations. Any retirement plans of acquired entities are typically merged into the RAP after completion of the mergers, and credit is usually given to employees for years of service at the acquired institution for vesting and eligibility purposes.

The Corporation also provides legacy healthcare access to a limited group of retired employees from a previous acquisition in the Postretirement Plan. There are no other active retiree healthcare plans.

Bank Mutual was acquired on February 1, 2018. The Bank Mutual Pension Plan was merged into the RAP on December 31, 2018. Bank Mutual's Postretirement Plan was merged into the Corporation's Postretirement Plan during the first quarter of 2018. The reported figures in 2018 for both the Bank Mutual Pension Plan and the Corporation's Postretirement Plan only include two months of Bank Mutual expense due to the timing of the Bank Mutual acquisition.

The components of net periodic pension cost and net periodic benefit cost for the RAP, Bank Mutual Pension Plan, and Postretirement Plan for the three months ended March 31, 2019 and 2018 were as follows:

	Three Months Ended March 31,	
	2019	2018
	(\$ in Thousands)	
Components of Net Periodic Benefit Cost		
RAP		
Service cost	\$ 1,925	\$ 1,893
Interest cost	2,413	1,660
Expected return on plan assets	(6,075)	(4,755)
Amortization of prior service cost	(19)	(19)
Amortization of actuarial loss	65	463
Total net periodic pension cost	\$ (1,691)	\$ (759)
Bank Mutual Pension Plan		
Interest cost	N/A	\$ 433
Expected return on plan assets	N/A	(532)
Total net periodic pension cost	N/A	\$ (99)
Postretirement Plan		
Interest cost	\$ 26	\$ 26
Amortization of prior service cost	(19)	(19)
Amortization of actuarial loss	(1)	2
Total net periodic benefit cost	\$ 6	\$ 9

The components of net periodic pension cost and net periodic benefit cost, other than the service cost component, are included in the line item "other" of noninterest expense in the consolidated statements of income.

The Corporation's funding policy is to pay at least the minimum amount required by federal law and regulations, with consideration given to the maximum funding amounts allowed. The Corporation regularly reviews the funding of its RAP. There were no contributions during the three months ended March 31, 2019 and 2018.

Note 15 Segment Reporting

The Corporation utilizes a risk-based internal profitability measurement system to provide strategic business unit reporting. The profitability measurement system is based on internal management methodologies designed to produce consistent results and reflect the underlying economics of the units. Certain strategic business units have been combined for segment information reporting purposes where the nature of the products and services, the type of customer and the distribution of those products and services are similar. The three reportable segments are Corporate and Commercial Specialty; Community, Consumer, and Business; and Risk Management and Shared Services. The financial information of the Corporation's segments has been compiled utilizing the accounting policies described in the Corporation's 2018 Annual Report on Form 10-K, with certain exceptions. The more significant of these exceptions are described herein.

The reportable segment results are presented based on the Corporation's internal management accounting process. The management accounting policies and processes utilized in compiling segment financial information are highly subjective and, unlike financial accounting, are not based on authoritative guidance similar to U.S. generally accepted accounting principles. As a result, reported segments and the financial information of the reported segments are not necessarily comparable with similar information reported by other financial institutions. Furthermore, changes in management structure or allocation methodologies and procedures may result in changes in previously reported segment financial data. Additionally, the information presented is not indicative of how the segments would perform if they operated as independent entities.

To determine financial performance of each segment, the Corporation allocates FTP assignments, the provision for credit losses, certain noninterest expenses, income tax, and equity to each segment. Allocation methodologies are subject to periodic adjustment as the internal management accounting system is revised, the interest rate environment evolves, and business or product lines within the segments change. Also, because the development and application of these methodologies is a dynamic process, the financial results presented may be periodically reviewed.

The Corporation allocates net interest income using an internal FTP methodology that charges users of funds (assets) and credits providers of funds (liabilities, primarily deposits) based on the maturity, prepayment and / or repricing characteristics of the assets and liabilities. The net effect of this allocation is offset in the Risk Management and Shared Services segment to ensure consolidated totals reflect the Corporation's net interest income. The net FTP allocation is reflected as net intersegment income (expense) in the accompanying tables.

A credit provision is allocated to segments based on the expected long-term annual net charge off rates attributable to the credit risk of loans managed by the segment during the period. In contrast, the level of the consolidated provision for credit losses is determined based on an incurred loss model using the methodologies described in the Corporation's 2018 Annual Report on Form 10-K to assess the overall appropriateness of the allowance for loan losses. The net effect of the credit provision is recorded in Risk Management and Shared Services. Indirect expenses incurred by certain centralized support areas are allocated to segments based on actual usage (for example, volume measurements) and other criteria. Certain types of administrative expense and bank-wide expense accruals (including amortization of CDI and other intangible assets associated with acquisitions) are generally not allocated to segments. Income taxes are allocated to segments based on the Corporation's estimated effective tax rate, with certain segments adjusted for any tax-exempt income or non-deductible expenses. Equity is allocated to the segments based on regulatory capital requirements and in proportion to an assessment of the inherent risks associated with the business of the segment (including interest, credit and operating risk).

A brief description of each business segment is presented below. A more in-depth discussion of these segments can be found in the Segment Reporting footnote in the Corporation's 2018 Annual Report on Form 10-K.

The Corporate and Commercial Specialty segment serves a wide range of customers including larger businesses, developers, not-for-profits, municipalities, and financial institutions. The Community, Consumer, and Business segment serves individuals, as well as small and mid-sized businesses. The Risk Management and Shared Services segment includes key shared operational functions and also includes residual revenue and expenses, representing the difference between actual amounts incurred and the amounts allocated to operating segments, including interest rate risk residuals (FTP mismatches) and credit risk and provision residuals (long-term credit charge mismatches). In addition, the Risk Management and Shared Services segment includes certain unallocated expenses related to Bank Mutual's shared services and operations prior to system conversion in late June 2018. All acquisition related costs are included in the Risk Management and Shared Services segment.

Information about the Corporation's segments is presented below:

	Corporate and Commercial Specialty	
	Three Months Ended March 31,	
	2019	2018
	(\$ in Thousands)	
Net interest income	\$ 115,909	\$ 104,435
Net intersegment interest income (expense)	(22,622)	(8,477)
Segment net interest income	93,287	95,958
Noninterest income	11,445	12,683
Total revenue	104,733	108,641
Credit provision	13,485	10,598
Noninterest expense	38,788	39,250
Income (loss) before income taxes	52,460	58,793
Income tax expense (benefit)	10,003	11,426
Net income	\$ 42,457	\$ 47,367
Allocated goodwill	\$ 524,525	\$ 519,779

	Community, Consumer, and Business	
	Three Months Ended March 31,	
	2019	2018
	(\$ in Thousands)	
Net interest income	\$ 88,072	\$ 86,395
Net intersegment interest income (expense)	23,442	17,148
Segment net interest income	111,514	103,543
Noninterest income	74,223	74,036
Total revenue	185,737	177,579
Credit provision	5,033	4,966
Noninterest expense	130,863	127,144
Income (loss) before income taxes	49,841	45,469
Income tax expense (benefit)	10,443	9,549
Net income	\$ 39,398	\$ 35,920
Allocated goodwill	\$ 644,419	\$ 633,377

Information about the Corporation's segments is presented below: (continued)

	Risk Management and Shared Services	
	Three Months Ended March 31,	
	2019	2018
	(\$ in Thousands)	
Net interest income	\$ 11,567	\$ 19,041
Net intersegment interest income (expense)	(821)	(8,671)
Segment net interest income	10,746	10,370
Noninterest income	5,533	3,661
Total revenue	16,280	14,031
Credit provision	(12,518)	(15,563)
Noninterest expense ^(a)	21,893	46,571
Income (loss) before income taxes	6,905	(16,977)
Income tax expense (benefit)	1,947	(3,146)
Net income	\$ 4,958	\$ (13,831)
Allocated goodwill	\$ —	\$ —

	Consolidated Total	
	Three Months Ended March 31,	
	2019	2018
	(\$ in Thousands)	
Net interest income	\$ 215,547	\$ 209,871
Net intersegment interest income (expense)	—	—
Segment net interest income	215,547	209,871
Noninterest income	91,202	90,380
Total revenue	306,749	300,251
Credit provision	6,000	—
Noninterest expense	191,671	212,965
Income (loss) before income taxes	109,078	87,285
Income tax expense (benefit)	22,392	17,829
Net income	\$ 86,686	\$ 69,456
Allocated goodwill	\$ 1,168,944	\$ 1,153,156

(a) For the three months ended March 31, 2019 and 2018, the Risk Management and Shared Services segment includes approximately \$632 thousand and \$21 million, respectively, of acquisition related noninterest expense.

Note 16 Accumulated Other Comprehensive Income (Loss)

The following tables summarize the components of accumulated other comprehensive income (loss) at March 31, 2019 and 2018 respectively, including changes during the preceding three month period as well as any reclassifications out of accumulated other comprehensive income (loss):

(\$ in Thousands)	Investment Securities Available For Sale	Defined Benefit Pension and Post Retirement Obligations	Accumulated Other Comprehensive Income (Loss)
Balance January 1, 2019	\$ (75,643)	\$ (49,330)	\$ (124,972)
Other comprehensive income (loss) before reclassifications	30,490	—	30,490
Amounts reclassified from accumulated other comprehensive income (loss)			
Investment securities losses (gains), net	(1,680)	—	(1,680)
Personnel expense	—	(38)	(38)
Other expense	—	64	64
Interest income (amortization of net unrealized losses (gains) on available for sale securities transferred to held to maturity securities)	69	—	69
Income tax (expense) benefit	(7,301)	(7)	(7,308)
Net other comprehensive income (loss) during period	21,578	20	21,597
Balance March 31, 2019	\$ (54,065)	\$ (49,310)	\$ (103,375)
Balance January 1, 2018	\$ (38,453)	\$ (24,305)	\$ (62,758)
Other comprehensive income (loss) before reclassifications	(41,834)	—	(41,834)
Amounts reclassified from accumulated other comprehensive income (loss)			
Personnel expense	—	(38)	(38)
Other expense	—	465	465
Adjustment for adoption of ASU 2016-01	(84)	—	(84)
Adjustment for adoption of ASU 2018-02	(8,419)	(5,235)	(13,654)
Interest income (amortization of net unrealized losses (gains) on available for sale securities transferred to held to maturity securities)	(297)	—	(297)
Income tax (expense) benefit	10,635	(107)	10,528
Net other comprehensive income (loss) during period	(40,000)	(4,915)	(44,915)
Balance March 31, 2018	\$ (78,453)	\$ (29,220)	\$ (107,673)

Note 17 Revenue from Contracts with Customers

Revenue from contracts with customers is recognized when obligations under the terms of a contract with the Corporation's customer are satisfied. Revenue is measured as the amount of consideration we expect to receive in exchange for transferring goods or providing services. We do not have any material significant payment terms as payment is received at or shortly after the satisfaction of the performance obligation.

The Corporation's disaggregated revenue by major source is presented below:

	Corporate and Commercial Specialty	
	Three Months Ended March 31,	
	2019	2018
	(\$ in Thousands)	
Insurance commissions and fees	\$ —	\$ —
Wealth management fees	—	—
Service charges and deposit account fees	3,388	4,225
Card-based fees ^(a)	328	315
Other revenue	(268)	655
Noninterest Income (in-scope of Topic 606)	\$ 3,448	\$ 5,195
Noninterest Income (out-of-scope of Topic 606)	7,998	7,488
Total Noninterest Income	\$ 11,445	\$ 12,683

	Community, Consumer, and Business	
	Three Months Ended March 31,	
	2019	2018
	(\$ in Thousands)	
Insurance commissions and fees	\$ 25,461	\$ 22,624
Wealth management fees	20,180	20,401
Service charges and deposit account fees	11,708	12,183
Card-based fees ^(a)	8,919	9,154
Other revenue	2,632	2,837
Noninterest Income (in-scope of Topic 606)	\$ 68,899	\$ 67,198
Noninterest Income (out-of-scope of Topic 606)	5,325	6,838
Total Noninterest Income	\$ 74,223	\$ 74,036

The Corporation's disaggregated revenue by major source is presented below: (continued)

	Risk Management and Shared Services	
	Three Months Ended March 31,	
	2019	2018
	(\$ in Thousands)	
Insurance commissions and fees	\$ 3	\$ 24
Wealth management fees	—	241
Service charges and deposit account fees	19	12
Card-based fees ^(a)	49	3
Other revenue	120	52
Noninterest Income (in-scope of Topic 606)	\$ 191	\$ 332
Noninterest Income (out-of-scope of Topic 606)	5,342	3,329
Total Noninterest Income	\$ 5,533	\$ 3,661

	Consolidated Total	
	Three Months Ended March 31,	
	2019	2018
	(\$ in Thousands)	
Insurance commissions and fees	\$ 25,464	\$ 22,648
Wealth management fees	20,180	20,642
Service charges and deposit account fees	15,115	16,420
Card-based fees ^(a)	9,295	9,472
Other revenue	2,484	3,544
Noninterest Income (in-scope of Topic 606)	\$ 72,538	\$ 72,725
Noninterest Income (out-of-scope of Topic 606)	18,665	17,655
Total Noninterest Income	\$ 91,202	\$ 90,380

(a) Certain card-based fees are out-of-scope of Topic 606.

The Corporation acquired Diversified in March 2018 and Anderson in June 2018 which resulted in increased insurance commissions and fees.

Below is a listing of performance obligations for the Corporation's main revenue streams:

Revenue Stream	Noninterest income in-scope of Topic 606
Insurance commissions and fees	The Corporation's insurance revenue has two distinct performance obligations. The first performance obligation is the selling of the policy as an agent for the carrier. This performance obligation is satisfied upon binding of the policy. The second performance obligation is the ongoing servicing of the policy which is satisfied over the life of the policy. For employee benefits, the payment is typically received monthly. For property and casualty, payments can vary, but are typically received at, or in advance, of the policy period.
Service charges and deposit account fees	Service charges on deposit accounts consist of monthly service fees (i.e. business analysis fees and consumer service charges) and other deposit account related fees. The Corporation's performance obligation for monthly service fees is generally satisfied, and the related revenue recognized, over the period in which the service is provided. Other deposit account related fees are largely transactional based, and therefore, the Corporation's performance obligation is satisfied, and related revenue recognized, at a point in time. Payment for service charges on deposit accounts is primarily received immediately or in the following month through a direct charge to customers' accounts.
Card-based fees ^(a)	Card-based fees are primarily comprised of debit and credit card income, ATM fees, and merchant services income. Debit and credit card income is primarily comprised of interchange fees earned whenever the Corporation's debit and credit cards are processed through card payment networks. ATM and merchant fees are largely transactional based, and therefore, the Corporation's performance obligation is satisfied, and related revenue recognized, at a point in time. Payment is typically received immediately or in the following month.
Trust and asset management fees ^(b)	Trust and asset management income is primarily comprised of fees earned from the management and administration of trusts and other customer assets. The Corporation's performance obligation is generally satisfied over time and the resulting fees are recognized monthly, based upon the month-end market value of the assets under management and the applicable fee rate. Payment is generally received a few days after month end through a direct charge to customers' accounts. The Corporation's performance obligation for these transactional-based services is generally satisfied, and related revenue recognized, at a point in time (i.e., as incurred). Payment is received shortly after services are rendered.
Brokerage commissions and fees ^(b)	Brokerage commissions and fees primarily consists of investment advisory, brokerage, retirement services, and annuities. The Corporation's performance obligation for investment advisory services and retirement services is generally satisfied, and the related revenue recognized, over the period in which the services are provided. The performance obligation for annuities is satisfied upon sale of the annuity, and therefore, the related revenue is primarily recognized at the time of sale. Payments for these services are typically received immediately or in advance of the service.

(a) Certain card-based fees are out-of-scope of Topic 606.

(b) Trust and asset management fees and brokerage commissions and fees are included in wealth management fees.

Arrangements with Multiple Performance Obligations

The Corporation's contracts with customers may include multiple performance obligations. For such arrangements, we allocate revenue to each performance obligation based on its relative standalone selling price. We generally determine standalone selling prices based on the expected cost plus margin.

Practical Expedients

We do not disclose the value of unsatisfied performance obligations for contracts with an original expected length of one year or less.

Using the practical expedient, for contracts with a term of one year or less, the Corporation recognizes incremental costs of obtaining those contracts as an expense when incurred.

Note 18 Leases

The Corporation has operating leases for retail and corporate offices, land, and equipment.

These operating leases have terms of 1 year to 44 years, some of which include options to extend the lease term. An analysis of the lease options has been completed and any optional periods that the Corporation is reasonably likely to extend have been included in the capitalization.

The discount rate used to capitalize the operating leases is the Corporation's FHLB borrowing rate on the date of lease commencement. When determining the rate to discount specific lease obligations, the repayment period and term are considered.

Operating lease costs for the first three months of 2019 were \$2.9 million with operating cash flows from operating leases of \$2.8 million.

The lease classifications on the consolidated balance sheets were as follows:

(\$ in Thousands)	March 31, 2019	
	Amount	Consolidated Balance Sheets Category
Operating lease right-of-use asset	\$ 49,372	Other assets
Finance lease right-of-use asset	—	Premises and equipment
Operating lease liability	53,516	Accrued expenses and other liabilities
Finance lease liability	—	Other long-term funding

The weighted-average remaining lease term and weighted-average discount rate were as follows:

(\$ in Thousands)	March 31, 2019	
	Weighted-average lease term (in years)	Weighted-average discount rate
Operating leases		
Equipment	1.36	2.73%
Retail and corporate offices	6.46	3.43%
Land	12.19	3.39%
Total operating leases	7.28	3.42%

Lease payment obligations for each of the next five years and thereafter in addition to a reconciliation to the Corporation's lease liability were as follows:

(\$ in Thousands)	Amount
Nine Months Ending December 31, 2019	\$ 8,330
2020	10,583
2021	9,884
2022	7,440
2023	5,297
Beyond 2023	20,110
Total lease payments	61,644
Less: interest	8,129
Present value of lease payments	\$ 53,516

As of March 31, 2019, we have additional operating leases, primarily retail and corporate offices, that have not yet commenced of \$19.3 million. These operating leases will commence between May 2019 and July 2023 with lease terms of 3 years to 10 years.

Practical Expedients:

The Corporation elected several practical expedients made available by the FASB. Due to materiality, the Corporation elected not to restate comparative periods upon adoption of the new guidance. In addition, the Corporation elected the package of practical expedients whereby the Corporation did not reassess (i) whether existing contracts are, or contain, leases and (ii) lease classification for existing leases. Lastly, the Corporation elected not to separate lease and nonlease components in determining the consideration in the lease agreement.

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

Special Note Regarding Forward-Looking Statements

This report contains statements that may constitute forward-looking statements within the meaning of the safe-harbor provisions for forward-looking statements contained in the Private Securities Litigation Reform Act of 1995, such as statements other than historical facts contained or incorporated by reference into this report. These forward-looking statements include statements with respect to the Corporation's financial condition, results of operations, plans, objectives, future performance and business, including statements preceded by, followed by or that include the words "believes," "expects," or "anticipates," references to estimates or similar expressions. Future filings by the Corporation with the SEC, and future statements other than historical facts contained in written material, press releases and oral statements issued by, or on behalf of the Corporation may also constitute forward-looking statements.

All forward-looking statements contained in this report or which may be contained in future statements made for or on behalf of the Corporation are based upon information available at the time the statement is made and the Corporation assumes no obligation to update any forward-looking statements, except as required by federal securities law. Forward-looking statements are subject to significant risks and uncertainties, and the Corporation's actual results may differ materially from the expected results discussed in such forward-looking statements. Factors that might cause actual results to differ from the results discussed in forward-looking statements include, but are not limited to, the risk factors in Item 1A, Risk Factors, in the Corporation's Annual Report on Form 10-K for the year ended December 31, 2018 and as may be described from time to time in the Corporation's subsequent SEC filings.

Overview

The following discussion and analysis is presented to assist in the understanding and evaluation of the Corporation's financial condition and results of operations. It is intended to complement the unaudited consolidated financial statements, footnotes, and supplemental financial data appearing elsewhere in this Quarterly Report on Form 10-Q and should be read in conjunction therewith. Management continually evaluates strategic acquisition opportunities and various other strategic alternatives that could involve the sale or acquisition of branches or other assets, or the consolidation or creation of subsidiaries. Within the tables presented, certain columns and rows may not sum due to the use of rounded numbers for disclosure purposes.

Performance Summary

- Average loans of \$23.1 billion increased \$1.0 billion, or 5%, from the first three months of 2018. Average deposits of \$24.6 billion increased \$905 million, or 4%, from the first three months of 2018. For 2019, the Corporation expects to grow 3-6% in annual average loans and maintain a loan-to-deposit ratio under 100%.
- Net interest income of \$216 million increased \$6 million, or 3%, from the first three months of 2018. Net interest margin was 2.90% compared to 2.92% for the first three months of 2018. For 2019, the Corporation expects a flat to slightly lower full year net interest margin based on no additional federal funds rate action.
- Provision for credit losses was \$6 million compared to no provision for the first three months of 2018. For 2019, the Corporation expects the provision for credit losses to adjust with changes to risk grade, other indications of credit quality, and loan volume.
- Noninterest income of \$91 million was up \$822 thousand, or 1%, from the first three months of 2018. For 2019, the Corporation expects improving year-over-year fee-based revenues and approximately \$360 million to \$375 million in full year noninterest income.
- Noninterest expense of \$192 million was down \$21 million, or 10%, from the first three months of 2018, driven by a reduction of \$20 million in acquisition related costs. For 2019, the Corporation expects full year noninterest expense to be approximately \$800 million.

Table 1 Summary Results of Operations: Trends

	1Q19	4Q18	3Q18	2Q18	1Q18
	(\$ in Thousands, except per share data)				
Net income	\$ 86,686	\$ 88,985	\$ 85,929	\$ 89,192	\$ 69,456
Net income available to common equity	82,885	85,278	83,521	86,863	67,117
Earnings per common share - basic	0.50	0.52	0.49	0.51	0.41
Earnings per common share - diluted	0.50	0.51	0.48	0.50	0.40
Effective tax rate	20.53%	21.83%	20.64%	14.19%	20.43%

Table 2 Net Interest Income Analysis

	Quarter ended								
	March 31, 2019			December 31, 2018			March 31, 2018		
	Average Balance	Interest Income / Expense	Average Yield / Rate	Average Balance	Interest Income / Expense	Average Yield / Rate	Average Balance	Interest Income / Expense	Average Yield / Rate
(\$ in Thousands)									
Assets									
Earning assets									
Loans ^{(a)(b)(c)}									
Commercial and business lending	\$ 8,376,163	\$ 100,298	4.86%	\$ 8,019,254	\$ 96,539	4.78%	\$ 7,313,621	\$ 74,706	4.14%
Commercial real estate lending	5,117,926	65,512	5.19%	5,209,743	72,364	5.51%	5,399,429	61,504	4.62%
Total commercial	13,494,089	165,810	4.98%	13,228,997	168,903	5.07%	12,713,050	136,210	4.34%
Residential mortgage ^(d)	8,366,452	73,981	3.54%	8,314,421	73,158	3.52%	8,066,297	66,955	3.32%
Retail ^(d)	1,242,973	19,355	6.26%	1,261,307	18,982	6.00%	1,299,181	17,299	5.35%
Total loans	23,103,514	259,147	4.53%	22,804,725	261,043	4.55%	22,078,529	220,464	4.03%
Investment securities									
Taxable	4,977,866	29,053	2.34%	5,087,746	29,119	2.29%	5,576,826	30,104	2.16%
Tax-exempt ^(a)	1,845,352	17,270	3.74%	1,740,964	16,253	3.73%	1,312,913	11,613	3.54%
Other short-term investments	468,449	4,226	3.65%	383,286	3,257	3.38%	313,864	2,177	2.80%
Investments and other	7,291,666	50,549	2.78%	7,211,997	48,629	2.70%	7,203,603	43,894	2.44%
Total earning assets	30,395,180	\$ 309,695	4.11%	30,016,722	\$ 309,672	4.11%	29,282,132	\$ 264,358	3.64%
Other assets, net	3,049,123			3,045,836			2,884,248		
Total assets	<u>\$ 33,444,303</u>			<u>\$ 33,062,558</u>			<u>\$ 32,166,380</u>		
Liabilities and Stockholders' equity									
Interest-bearing liabilities									
Interest-bearing deposits									
Savings	\$ 2,098,834	\$ 1,150	0.22%	\$ 1,995,160	\$ 696	0.14%	\$ 1,722,665	\$ 202	0.05%
Interest-bearing demand	4,739,662	13,920	1.19%	4,837,223	14,006	1.15%	4,503,974	7,818	0.70%
Money market	7,388,174	20,786	1.14%	7,089,449	16,532	0.93%	7,215,329	9,785	0.55%
Network transaction deposits	2,225,027	13,626	2.48%	1,880,595	10,943	2.31%	2,408,681	8,778	1.48%
Time deposits	3,121,960	13,291	1.73%	3,060,896	11,982	1.55%	2,715,292	6,830	1.02%
Total interest-bearing deposits	19,573,656	62,773	1.30%	18,863,323	54,159	1.14%	18,565,941	33,412	0.73%
Federal funds purchased and securities sold under agreements to repurchase	177,361	627	1.43%	134,748	442	1.30%	275,578	522	0.77%
Commercial paper	41,640	51	0.50%	41,528	36	0.35%	73,722	60	0.33%
FHLB advances	3,639,660	19,554	2.18%	3,654,905	19,948	2.17%	3,736,510	13,123	1.42%
Long-term funding	795,757	7,396	3.72%	795,379	7,396	3.72%	497,348	4,544	3.66%
Total short and long-term funding	4,654,418	27,628	2.40%	4,626,560	27,822	2.39%	4,583,158	18,249	1.61%
Total interest-bearing liabilities	24,228,074	\$ 90,401	1.51%	23,489,883	\$ 81,980	1.39%	23,149,099	\$ 51,661	0.90%
Noninterest-bearing demand deposits	4,982,553			5,366,711			5,084,957		
Other liabilities	418,546			459,204			395,008		
Stockholders' equity	3,815,130			3,746,760			3,537,316		
Total liabilities and stockholders' equity	<u>\$ 33,444,303</u>			<u>\$ 33,062,558</u>			<u>\$ 32,166,380</u>		
Interest rate spread			2.60%			2.72%			2.74%
Net free funds			0.30%			0.30%			0.18%
Fully tax-equivalent net interest income and net interest margin ("NIM")		<u>\$ 219,294</u>	<u>2.90%</u>		<u>\$ 227,692</u>	<u>3.02%</u>		<u>\$ 212,697</u>	<u>2.92%</u>
Fully tax-equivalent adjustment		3,747			3,736			2,826	
Net interest income		<u>\$ 215,547</u>			<u>\$ 223,955</u>			<u>\$ 209,871</u>	

(a) The yield on tax-exempt loans and securities is computed on a fully tax-equivalent basis using a tax rate of 21% and is net of the effects of certain disallowed interest deductions.

(b) Nonaccrual loans and loans held for sale have been included in the average balances.

(c) Interest income includes amortization of net deferred loan origination costs and net accreted purchase loan discount.

(d) Upon conversion, certain Bank Mutual loans were reclassified from home equity to residential mortgage. March 31, 2018 balances have been adjusted to reflect this change.

Notable Contributions to the Change in Net Interest Income

- Net interest income in the consolidated statements of income (which excludes the fully tax-equivalent adjustment) was \$216 million for the first three months of 2019 compared to \$210 million for the first three months of 2018. See sections Interest Rate Risk and Quantitative and Qualitative Disclosures about Market Risk for a discussion of interest rate risk and market risk.
- Fully tax-equivalent net interest income of \$219 million for the first three months of 2019 was \$7 million, or 3%, higher than the first three months of 2018. The net interest margin for the first three months of 2019 was 2.90%, compared to 2.92% for the first three months of 2018.
- Accreted income from the acquired Bank Mutual loan portfolio contributed \$2 million to net interest income for the first three months of 2019 compared to \$6 million for the first three months of 2018, of which approximately \$2 million of the accreted income was from loan prepayments and other adjustments.
- Average earning assets of \$30.4 billion for the first three months of 2019 were \$1.1 billion, or 4%, higher than the first three months of 2018. Average loans of \$23.1 billion for the first three months of 2019 increased \$1.0 billion, or 5%, from the first three months of 2018, primarily due to a \$781 million, or 6%, increase in commercial loans.
- Average interest-bearing liabilities of \$24.2 billion for the first three months of 2019 were up \$1.1 billion, or 5%, versus the first three months of 2018. On average, interest-bearing deposits increased \$1.0 billion, or 5%, and long-term funding increased \$298 million, or 60%, from the first three months of 2018 primarily due to the issuance of \$300 million of senior bank notes in August 2018.
- The cost of interest-bearing liabilities was 1.51% for the first three months of 2019, which was 61 bp higher than the first three months of 2018. The increase was primarily due to a 57 bp increase in the cost of average interest-bearing deposits to 1.30% and a 76 bp increase in the cost of FHLB advances to 2.18%, both primarily due to increases in the Federal Reserve interest rate.
- The Federal Reserve left the interest rate unchanged for the first quarter of 2019 at a range of 2.25% to 2.50%, compared to a range of 1.50% to 1.75% at the end of the first quarter of 2018.

Provision for Credit Losses

The provision for credit losses is predominantly a function of the Corporation's reserving methodology and judgments as to other qualitative and quantitative factors used to determine the appropriate level of the allowance for loan losses and the allowance for unfunded commitments, which focuses on changes in the size and character of the loan portfolio, changes in levels of impaired and other nonaccrual loans, historical losses and delinquencies in each portfolio category, the level of loans sold or transferred to held for sale, the risk inherent in specific loans, concentrations of loans to specific borrowers or industries, existing economic conditions, the fair value of underlying collateral, and other factors which could affect potential credit losses. See additional discussion under the sections titled, Loans, Credit Risk, Nonperforming Assets, and Allowance for Credit Losses.

- The provision for credit losses (which includes the provision for loan losses and the provision for unfunded commitments) for the three months ended March 31, 2019 was \$6 million, compared to no provision for the three months ended March 31, 2018.
- Net charge offs were \$7 million, or 0.13%, of average loans on an annualized basis, for the three months ended March 31, 2019, compared to \$9 million, or 0.17%, of average loans on an annualized basis, for the three months ended March 31, 2018.
- The ratio of the allowance for loan losses to total loans was 1.02% for March 31, 2019 and 1.13% for March 31, 2018.

Noninterest Income

Table 3 Noninterest Income

(\$ in Thousands)	1Q19	4Q18	3Q18	2Q18	1Q18	1Q19 Change vs	
						4Q18	1Q18
Insurance commissions and fees	\$ 25,464	\$ 21,232	\$ 21,636	\$ 23,996	\$ 22,648	20 %	12 %
Wealth management fees ^(a)	20,180	20,364	21,224	20,333	20,642	(1)%	(2)%
Service charges and deposit account fees	15,115	16,361	16,904	16,390	16,420	(8)%	(8)%
Card-based fees	9,261	10,316	9,783	10,115	9,442	(10)%	(2)%
Other fee-based revenue	3,983	5,260	4,307	4,272	3,980	(24)%	— %
Total fee-based revenue	74,003	73,533	73,854	75,106	73,132	1 %	1 %
Capital markets, net	3,189	4,931	5,099	4,783	5,306	(35)%	(40)%
Mortgage banking income	7,526	5,846	6,444	8,451	8,219	29 %	(8)%
Mortgage servicing rights expense	2,814	2,575	2,432	2,193	1,849	9 %	52 %
Mortgage banking, net	4,712	3,271	4,012	6,258	6,370	44 %	(26)%
Bank and corporate owned life insurance	3,792	3,247	3,540	3,978	3,187	17 %	19 %
Other	3,260	1,522	2,802	2,235	2,492	114 %	31 %
Subtotal	88,956	86,504	89,307	92,360	90,487	3 %	(2)%
Asset gains(losses), net ^(b)	567	(2,456)	(1,037)	2,497	(107)	N/M	N/M
Investment securities gains(losses), net	1,680	—	30	(2,015)	—	N/M	N/M
Total noninterest income	\$ 91,202	\$ 84,046	\$ 88,300	\$ 92,842	\$ 90,380	9 %	1 %
Mortgage loans originated for sale during period	\$ 162,521	\$ 244,700	\$ 331,334	\$ 318,682	\$ 197,603	(34)%	(18)%
Mortgage loan settlements during period	\$ 159,842	\$ 304,723	\$ 344,849	\$ 294,456	\$ 187,624	(48)%	(15)%
Assets under management, at market value ^(c)	\$ 11,192	\$ 10,291	\$ 11,206	\$ 10,776	\$ 10,540	9 %	6 %

N/M = Not Meaningful

(a) Includes trust, asset management, brokerage, and annuity fees.

(b) 3Q18 and 2Q18 each include approximately \$1 million of Bank Mutual acquisition related asset losses net of asset gains.

(c) \$ in millions. Excludes assets held in brokerage accounts.

Notable Contributions to the Change in Noninterest Income

- Insurance revenue was \$25 million, up \$3 million, or 12%, from the first three months of 2018, driven by the acquisitions of Diversified and Anderson.
- Service charges and deposit account fees decreased \$1 million, or 8%, from the first three months of 2018, primarily driven by a decrease in service charges on business accounts.
- Mortgage banking, net was down \$2 million, or 26%, from the first three months of 2018, primarily driven by lower mortgage banking income and higher MSR expense.
- Capital markets, net was down \$2 million, or 40%, from the first three months of 2018, primarily driven by \$1 million of unfavorable credit valuation adjustments.

Noninterest Expense

Table 4 Noninterest Expense

(\$ in Thousands)						1Q19 Change vs	
	1Q19	4Q18	3Q18	2Q18	1Q18	4Q18	1Q18
Personnel	\$ 120,050	\$ 116,535	\$ 124,476	\$ 123,980	\$ 117,685	3 %	2 %
Technology	19,012	17,944	17,563	19,452	17,715	6 %	7 %
Occupancy	16,472	14,174	14,519	15,071	15,357	16 %	7 %
Business development and advertising	6,636	8,950	8,213	7,067	6,693	(26)%	(1)%
Equipment	5,668	5,897	5,838	5,953	5,556	(4)%	2 %
Legal and professional	3,951	5,888	5,476	6,284	5,413	(33)%	(27)%
Card Issuance costs	977	1,442	2,247	2,412	2,332	(32)%	(58)%
Loan costs	1,364	790	1,430	761	972	73 %	40 %
Foreclosure / OREO expense, net	567	909	950	1,021	723	(38)%	(22)%
FDIC assessment	3,750	5,750	7,750	8,250	8,250	(35)%	(55)%
Other intangible amortization	2,226	2,233	2,233	2,168	1,525	— %	46 %
Acquisition related costs ^(a)	632	(981)	2,271	7,107	20,605	N/M	(97)%
Other	10,366	13,632	11,445	11,732	10,140	(24)%	2 %
Total noninterest expense	<u>\$ 191,671</u>	<u>\$ 193,163</u>	<u>\$ 204,413</u>	<u>\$ 211,258</u>	<u>\$ 212,965</u>	<u>(1)%</u>	<u>(10)%</u>
Personnel expense to total noninterest expense	63%	60%	61%	59%	55%		
Average full-time equivalent employees ^(b)	4,660	4,659	4,707	4,792	4,637		

N/M = Not Meaningful

(a) Includes Huntington branch and Bank Mutual acquisition related costs only

(b) Average full-time equivalent employees without overtime

Notable Contributions to the Change in Noninterest Expense

- Personnel expense (which includes salary-related expenses and fringe benefit expenses) of \$120 million increased \$2 million from the first three months of 2018.
- FDIC assessment decreased \$5 million from the first three months of 2018 driven by the FDIC surcharge assessment ending in late 2018.
- Acquisition related costs decreased \$20 million from the first three months of 2018.

Income Taxes

The Corporation recognized income tax expense of \$22 million for the three months ended March 31, 2019, compared to income tax expense of \$18 million for the three months ended March 31, 2018. The change in income tax expense was primarily due to the increase in the level of pre-tax book income. The effective tax rate was 20.53% for the first three months of 2019, compared to an effective tax rate of 20.43% for the first three months of 2018.

Income tax expense recorded in the consolidated statements of income involves the interpretation and application of certain accounting pronouncements and federal and state tax laws and regulations, and is, therefore, considered a critical accounting policy. The Corporation is subject to examination by various taxing authorities. Examination by taxing authorities may impact the amount of tax expense and / or reserve for uncertainty in income taxes if their interpretations differ from those of management, based on their judgments about information available to them at the time of their examinations. See section Critical Accounting Policies, in the Corporation's 2018 Annual Report on Form 10-K for additional information on income taxes.

Balance Sheet Analysis

- At March 31, 2019, total assets were \$33.7 billion, up \$53 million from December 31, 2018 and up \$334 million, or 1%, from March 31, 2018.
- Loans of \$23.1 billion at March 31, 2019 were up \$208 million, or 1%, from December 31, 2018 and were up \$338 million, or 1%, from March 31, 2018. See section Loans for additional information on loans.
- At March 31, 2019, total deposits of \$25.5 billion were up \$636 million, or 3%, from December 31, 2018 and were up \$1.7 billion, or 7%, from March 31, 2018. See section Deposits and Customer Funding for additional information on deposits.
- Long-term funding, excluding FHLB advances, was \$796 million at March 31, 2019, relatively unchanged from December 31, 2018 and increased 60% from March 31, 2018 primarily driven by a \$300 million senior bank note issuance during the third quarter of 2018.
- At March 31, 2019, preferred equity was \$257 million, unchanged from December 31, 2018 and up \$97 million from March 31, 2018 as a result of the Corporation's \$100 million Non-Cumulative Perpetual Preferred Stock, Series E issuance during the third quarter of 2018.

Loans

Table 5 Period End Loan Composition

	March 31, 2019		December 31, 2018		September 30, 2018		June 30, 2018		March 31, 2018	
	Amount	% of Total	Amount	% of Total	Amount	% of Total	Amount	% of Total	Amount	% of Total
(\$ in Thousands)										
Commercial and industrial	\$ 7,587,597	33%	\$ 7,398,044	32%	\$ 7,159,941	31%	\$ 7,109,796	31%	\$ 6,756,983	30%
Commercial real estate — owner occupied	932,393	4%	920,443	4%	867,682	4%	888,330	4%	900,913	4%
Commercial and business lending	8,519,990	37%	8,318,487	36%	8,027,622	35%	7,998,126	35%	7,657,896	34%
Commercial real estate — investor	3,809,253	16%	3,751,554	16%	3,924,499	17%	3,996,415	17%	4,077,671	18%
Real estate construction	1,273,782	6%	1,335,031	6%	1,416,209	6%	1,487,159	6%	1,579,778	7%
Commercial real estate lending	5,083,035	22%	5,086,585	22%	5,340,708	23%	5,483,574	24%	5,657,449	25%
Total commercial	13,603,025	59%	13,405,072	58%	13,368,330	58%	13,481,700	59%	13,315,345	58%
Residential mortgage	8,323,846	36%	8,277,712	36%	8,227,649	36%	8,207,253	36%	8,197,223	36%
Home equity	868,886	4%	894,473	4%	901,275	4%	911,363	4%	923,470	4%
Other consumer	352,602	2%	363,171	2%	369,858	2%	376,470	2%	374,453	2%
Total consumer	9,545,333	41%	9,535,357	42%	9,498,782	42%	9,495,086	41%	9,495,146	42%
Total loans	\$ 23,148,359	100%	\$ 22,940,429	100%	\$ 22,867,112	100%	\$ 22,976,786	100%	\$ 22,810,491	100%

The Corporation has long-term guidelines relative to the proportion of Commercial and Business, Commercial Real Estate, and Consumer loans within the overall loan portfolio, with each targeted to represent 30-40% of the overall loan portfolio. The targeted long-term guidelines were unchanged during 2018 and the first three months of 2019. Furthermore, certain sub-asset classes within the respective portfolios were further defined and dollar limitations were placed on these sub-portfolios. These guidelines and limits are reviewed quarterly and approved annually by the Enterprise Risk Committee of the Corporation's Board of Directors. These guidelines and limits are designed to create balance and diversification within the loan portfolios.

Table 6 Loan Distribution and Interest Rate Sensitivity

March 31, 2019	Within 1 Year ^(a)			1-5 Years	After 5 Years	Total	% of Total
	(\$ in Thousands)						
Commercial and industrial	\$ 6,970,851	\$ 500,539	\$ 116,207	\$ 7,587,597			33%
Commercial real estate — owner occupied	503,650	277,661	151,082	932,393			4%
Commercial real estate — investor	3,222,155	494,679	92,419	3,809,253			16%
Real estate construction	1,210,988	59,928	2,866	1,273,782			6%
Residential Mortgage - Adjustable ^(b)	628,426	2,873,068	1,688,217	5,189,710			22%
Residential Mortgage - Fixed	69,108	62,041	3,002,987	3,134,136			14%
Home Equity	43,549	69,504	755,832	868,886			4%
Other Consumer	155,427	46,418	150,757	352,602			2%
Total Loans	\$ 12,804,154	\$ 4,383,838	\$ 5,960,366	\$ 23,148,359			100%
Fixed rate	\$ 5,552,484	\$ 1,076,892	\$ 3,467,282	\$ 10,096,658			44%
Floating or adjustable rate	7,251,670	3,306,947	2,493,084	13,051,700			56%
Total	\$ 12,804,154	\$ 4,383,838	\$ 5,960,366	\$ 23,148,359			100%

(a) Demand loans, past due loans, overdrafts, and credit cards are reported in the "Within 1 Year" category.

(b) Based on contractual loan terms for adjustable rate mortgages; does not factor in early prepayments or amortization.

At March 31, 2019, \$18.6 billion, or 80%, of the loans outstanding were either an adjustable rate or a floating rate, or either repricing or maturing within one year.

Credit Risk

An active credit risk management process is used for commercial loans to ensure that sound and consistent credit decisions are made. Credit risk is controlled by detailed underwriting procedures, comprehensive loan administration, and periodic review of borrowers' outstanding loans and commitments. Borrower relationships are formally reviewed and graded on an ongoing basis for early identification of potential problems. Further analysis by customer, industry, and geographic location are performed to monitor trends, financial performance, and concentrations. See Note 7 Loans of the notes to consolidated financial statements, for additional information on managing overall credit quality.

The loan portfolio is widely diversified by types of borrowers, industry groups, and market areas within the Corporation's branch footprint. Significant loan concentrations are considered to exist when there are amounts loaned to numerous borrowers engaged in similar activities that would cause them to be similarly impacted by economic or other conditions. At March 31, 2019, no significant concentrations existed in the Corporation's portfolio in excess of 10% of total loans.

Commercial and business lending: The commercial and business lending classification primarily includes commercial loans to large corporations, middle market companies, small businesses, and lease financing.

Table 7 Largest Commercial and Business Lending Industry Group Exposures

March 31, 2019	% of Total Loans	% of Total Commercial and Business Lending
Manufacturing and Wholesale Trade	9%	23%
Power and Utilities	6%	16%

The remaining commercial and business lending portfolio is spread over a diverse range of industries, none of which exceed 5% of total loans.

The credit risk related to commercial loans is largely influenced by general economic conditions and the resulting impact on a borrower's operations or on the value of underlying collateral, if any.

Commercial real estate - investor: Commercial real estate-investor is comprised of loans secured by various non-owner occupied or investor income producing property types.

Table 8 Largest Commercial Real Estate Investor Property Type Exposures

March 31, 2019	% of Total Loans	% of Total Commercial Real Estate - Investor
Multi-Family	5%	33%

The remaining commercial real estate-investor portfolio is spread over various other property types, none of which exceed 5% of total loans.

Credit risk is managed in a similar manner to commercial and business lending by employing sound underwriting guidelines, lending primarily to borrowers in local markets and businesses, periodically evaluating the underlying collateral, and formally reviewing the borrower's financial soundness and relationship on an ongoing basis.

Real estate construction: Real estate construction loans are primarily short-term or interim loans that provide financing for the acquisition or development of commercial income properties, multi-family projects or residential development, both single family and condominium. Real estate construction loans are made to developers and project managers who are generally well known to the Corporation and have prior successful project experience. The credit risk associated with real estate construction loans is generally confined to specific geographic areas but is also influenced by general economic conditions. The Corporation controls the credit risk on these types of loans by making loans in familiar markets to developers, reviewing the merits of individual projects, controlling loan structure, and monitoring project progress and construction advances.

The Corporation's current lending standards for commercial real estate and real estate construction lending are determined by property type and specifically address many criteria, including: maximum loan amounts, maximum LTV, requirements for pre-leasing and / or presales, minimum borrower equity, and maximum loan-to-cost. Currently, the maximum standard for LTV is 80%, with lower limits established for certain higher risk types, such as raw land that has a 50% LTV maximum. The Corporation's LTV guidelines are in compliance with regulatory supervisory limits. In most cases, for real estate construction loans, the loan amounts include interest reserves, which are built into the loans and sized to fund loan payments through construction and lease up and / or sell out.

Residential mortgages: Residential mortgage loans are primarily first lien home mortgages with a maximum loan-to-collateral value without credit enhancement (e.g. private mortgage insurance) of 80%. The residential mortgage portfolio is focused primarily in the Corporation's three-state branch footprint, with approximately 88% of the outstanding loan balances in the Corporation's branch footprint at March 31, 2019. The majority of the on balance sheet residential mortgage portfolio consists of hybrid, adjustable rate mortgage loans with initial fixed rate terms of 3, 5, 7, or 10 years.

The Corporation generally retains certain fixed-rate residential real estate mortgages in its loan portfolio, including retail and private banking jumbo mortgages and CRA-related mortgages. As part of management's historical practice of originating and servicing residential mortgage loans, generally the Corporation's 30 year, agency conforming, fixed-rate residential real estate mortgage loans have been sold in the secondary market with servicing rights retained. Subject to management's analysis of the current interest rate environment, among other market factors, the Corporation may choose to retain 30 year mortgage loan production on its consolidated balance sheets.

The Corporation's underwriting and risk-based pricing guidelines for residential mortgage loans include minimum borrower FICO and maximum LTV of the property securing the loan. Residential mortgage products generally are underwritten using FHLMC and FNMA secondary marketing guidelines.

Home equity: Home equity consists of both home equity lines of credit and closed-end home equity loans. The Corporation's credit risk monitoring guidelines for home equity is based on an ongoing review of loan delinquency status, as well as a quarterly review of FICO score deterioration and property devaluation. The Corporation does not routinely obtain appraisals on performing loans to update LTV ratios after origination; however, the Corporation monitors the local housing markets by reviewing the various home price indices and incorporates the impact of the changing market conditions in its ongoing credit monitoring process. For junior lien home equity loans, the Corporation is unable to track the performance of the first lien loan if it does not own or service the first lien loan. However, the Corporation obtains a refreshed FICO score on a quarterly basis and monitors this as part of its assessment of the home equity portfolio.

The Corporation's underwriting and risk-based pricing guidelines for home equity lines and loans consist of a combination of both borrower FICO and the original cumulative LTV against the property securing the loan. Currently, the Corporation's policy sets the maximum acceptable LTV at 90% and the minimum acceptable FICO at 670. The Corporation's current home

equity line of credit offering is priced based on floating rate indices and generally allows 10 years of interest-only payments followed by a 20-year amortization of the outstanding balance. The Corporation has significantly curtailed its offerings of fixed-rate, closed-end home equity loans. The loans in the Corporation's portfolio generally have an original term of 20 years with principal and interest payments required.

Other consumer: Other consumer consists of student loans, short-term and other personal installment loans and credit cards. The Corporation had \$155 million and \$162 million of student loans at March 31, 2019 and December 31, 2018, respectively, the majority of which are government guaranteed. Credit risk for non-government guaranteed student, short-term, personal installment loans, and credit cards is influenced by general economic conditions, the characteristics of individual borrowers, and the nature of the loan collateral. Risks of loss are generally on smaller average balances per loan spread over many borrowers. Once charged off, there is usually less opportunity for recovery of these smaller consumer loans. Credit risk is primarily controlled by reviewing the creditworthiness of the borrowers, monitoring payment histories, and taking appropriate collateral and guarantee positions. The student loan portfolio is in run-off and no new student loans are being originated.

Nonperforming Assets

Management is committed to a proactive nonaccrual and problem loan identification philosophy. This philosophy is implemented through the ongoing monitoring and review of all pools of risk in the loan portfolio to ensure that problem loans are identified quickly and the risk of loss is minimized. Table 9 provides detailed information regarding nonperforming assets, which include nonaccrual loans, other real estate owned, and other nonperforming assets:

Table 9 Nonperforming Assets

	March 31, 2019	December 31, 2018	September 30, 2018	June 30, 2018	March 31, 2018
(\$ in Thousands)					
Nonperforming assets					
Commercial and industrial	\$ 73,379	\$ 41,021	\$ 50,146	\$ 81,776	\$ 102,667
Commercial real estate — owner occupied	890	3,957	4,779	18,649	20,636
Commercial and business lending	74,269	44,978	54,925	100,425	123,303
Commercial real estate — investor	776	1,952	19,725	26,503	15,574
Real estate construction	739	979	1,154	1,544	1,219
Commercial real estate lending	1,516	2,931	20,879	28,047	16,793
Total commercial	75,784	47,909	75,804	128,472	140,096
Residential mortgage	67,323	67,574	65,896	62,896	55,100
Home equity	12,300	12,339	12,324	12,958	13,218
Other consumer	149	79	68	134	139
Total consumer	79,772	79,992	78,288	75,988	68,456
Total nonaccrual loans	155,556	127,901	154,092	204,460	208,553
Commercial real estate owned	3,434	4,047	4,680	4,848	7,511
Residential real estate owned	3,740	2,963	3,630	3,715	5,806
Bank properties real estate owned	5,112	4,974	17,343	18,645	3,601
Other real estate owned (“OREO”)	12,286	11,984	25,653	27,207	16,919
Other nonperforming assets	—	—	6,379	7,059	7,117
Total nonperforming assets (“NPAs”)	\$ 167,843	\$ 139,885	\$ 186,124	\$ 238,726	\$ 232,589
Accruing loans past due 90 days or more					
Commercial	\$ 287	\$ 311	\$ 319	\$ 222	\$ 505
Consumer	1,931	1,853	1,856	1,617	2,888
Total accruing loans past due 90 days or more	\$ 2,218	\$ 2,165	\$ 2,175	\$ 1,839	\$ 3,393
Restructured loans (accruing)					
Commercial	\$ 19,480	\$ 28,668	\$ 43,199	\$ 36,852	\$ 47,460
Consumer	27,068	24,595	25,955	26,871	29,041
Total restructured loans (accruing)	\$ 46,548	\$ 53,263	\$ 69,154	\$ 63,723	\$ 76,501
Nonaccrual restructured loans (included in nonaccrual loans)	\$ 24,172	\$ 26,292	\$ 33,757	\$ 38,005	\$ 23,827
Ratios					
Nonaccrual loans to total loans	0.67%	0.56%	0.67%	0.89%	0.91%
NPAs to total loans plus OREO	0.72%	0.61%	0.81%	1.04%	1.02%
NPAs to total assets	0.50%	0.42%	0.56%	0.71%	0.70%
Allowance for loan losses to nonaccrual loans	151.12%	186.10%	153.32%	123.55%	123.26%

Table 9 Nonperforming Assets (continued)

	March 31, 2019	December 31, 2018	September 30, 2018	June 30, 2018	March 31, 2018
	(\$ in Thousands)				
Accruing loans 30-89 days past due					
Commercial and industrial	\$ 3,295	\$ 525	\$ 5,732	\$ 588	\$ 880
Commercial real estate — owner occupied	6,066	2,699	6,126	193	511
Commercial and business lending	9,361	3,224	11,858	781	1,391
Commercial real estate — investor	1,090	3,767	373	828	240
Real estate construction	6,773	330	517	19,765	490
Commercial real estate lending	7,863	4,097	890	20,593	730
Total commercial	17,224	7,321	12,748	21,374	2,121
Residential mortgage	13,274	9,706	8,899	9,341	15,133
Home equity	6,363	6,049	8,080	7,270	5,868
Other consumer	2,364	2,269	1,979	1,735	1,811
Total consumer	22,001	18,024	18,958	18,346	22,812
Total accruing loans 30-89 days past due	\$ 39,225	\$ 25,345	\$ 31,706	\$ 39,720	\$ 24,934
Potential problem loans					
Commercial and industrial	\$ 111,772	\$ 116,578	\$ 144,468	\$ 172,177	\$ 196,766
Commercial real estate — owner occupied	48,929	55,964	32,526	38,879	34,410
Commercial and business lending	160,701	172,542	176,994	211,056	231,176
Commercial real estate — investor	70,613	67,481	49,842	24,790	46,970
Real estate construction	4,600	3,834	3,392	3,168	1,695
Commercial real estate lending	75,213	71,315	53,234	27,958	48,665
Total commercial	235,914	243,856	230,228	239,014	279,841
Residential mortgage	5,351	5,975	6,073	2,355	2,155
Home equity	91	103	148	142	188
Other consumer	—	—	—	6	—
Total consumer	5,443	6,078	6,221	2,503	2,343
Total potential problem loans	\$ 241,357	\$ 249,935	\$ 236,449	\$ 241,517	\$ 282,184

Nonaccrual loans: Nonaccrual loans are considered to be one indicator of potential future loan losses. See Note 7 Loans of the notes to consolidated financial statements for additional nonaccrual loan disclosures. See also sections Credit Risk and Allowance for Credit Losses.

Accruing loans past due 90 days or more: Loans past due 90 days or more but still accruing interest are classified as such where the underlying loans are both well secured (the collateral value is sufficient to cover principal and accrued interest) and are in the process of collection.

Restructured loans: Loans are considered restructured loans if concessions have been granted to borrowers that are experiencing financial difficulty. See also Note 7 Loans of the notes to consolidated financial statements for additional restructured loans disclosures.

Potential problem loans: The level of potential problem loans is another predominant factor in determining the relative level of risk in the loan portfolio and in determining the appropriate level of the allowance for loan losses. Potential problem loans are generally defined by management to include loans rated as substandard by management but that are not considered impaired (i.e., nonaccrual loans and accruing troubled debt restructurings); however, there are circumstances present to create doubt as to the ability of the borrower to comply with present repayment terms. The decision of management to include performing loans in potential problem loans does not necessarily mean that the Corporation expects losses to occur, but that management recognizes a higher degree of risk associated with these loans.

OREO: Management actively seeks to ensure OREO properties held are monitored to minimize the Corporation's risk of loss.

Allowance for Credit Losses

Credit risks within the loan portfolio are inherently different for each loan type. Credit risk is controlled and monitored through the use of lending standards, a thorough review of potential borrowers, and ongoing review of loan payment performance. Active asset quality administration, including early problem loan identification and timely resolution of problems, aids in the management of credit risk and minimization of loan losses. Credit risk management for each loan type is discussed in the section entitled Credit Risk. See Note 7 Loans of the notes to consolidated financial statements for additional disclosures on the allowance for credit losses.

To assess the appropriateness of the allowance for loan losses, an allocation methodology is applied by the Corporation which focuses on evaluation of many factors, including but not limited to: evaluation of facts and issues related to specific loans, management's ongoing review and grading of the loan portfolio, consideration of historical loan loss and delinquency experience on each portfolio category, trends in past due and nonaccrual loans, the level of potential problem loans, the risk characteristics of the various classifications of loans, changes in the size and character of the loan portfolio, concentrations of loans to specific borrowers or industries, existing economic conditions, the fair value of underlying collateral, and other qualitative and quantitative factors which could affect potential credit losses. Assessing these factors involves significant judgment. Because each of the criteria used is subject to change, the allowance for loan losses is not necessarily indicative of the trend of future loan losses in any particular category. Therefore, management considers the allowance for loan losses a critical accounting policy—See section Critical Accounting Policies, in the Corporation's 2018 Annual Report on Form 10-K for additional information on the allowance for loan losses. See section, Nonperforming Assets, for a detailed discussion on asset quality. See also Note 7 Loans of the notes to consolidated financial statements for additional allowance for loan losses disclosures. Table 5 provides information on loan growth and period end loan composition, Table 9 provides additional information regarding nonperforming assets, and Table 10 and Table 11 provide additional information regarding activity in the allowance for loan losses.

The methodology used for the allocation of the allowance for loan losses at March 31, 2019 and December 31, 2018 was generally comparable. The allocation methodology consists of the following components: First, a valuation allowance estimate is established for specifically identified commercial and consumer loans determined by the Corporation to be impaired, using discounted cash flows, estimated fair value of underlying collateral, and / or other data available. Second, management allocates the allowance for loan losses with loss factors, for criticized loan pools by loan type as well as for non-criticized loan pools by loan type, primarily based on historical loss rates after considering loan type, historical loss and delinquency experience, credit quality, and industry segments. Loans that have been criticized are considered to have a higher risk of default than non-criticized loans, as circumstances were present to support the lower loan grade, warranting higher loss factors. The loss factors applied in the methodology are periodically re-evaluated and adjusted to reflect changes in historical loss levels or other risks. Lastly, management allocates allowance for loan losses to absorb losses that may not be provided for by the other components due to other factors evaluated by management, such as limitations within the credit risk grading process, known current economic or business conditions that may not yet show in trends, industry or other concentrations with current issues that impose higher inherent risks than are reflected in the loss factors, and other relevant considerations. The total allowance is available to absorb losses from any segment of the loan portfolio.

Table 10 Allowance for Credit Losses

	March 31, 2019	December 31, 2018	September 30, 2018	June 30, 2018	March 31, 2018
(\$ in Thousands)					
Allowance for Loan Losses					
Balance at beginning of period	\$ 238,023	\$ 236,250	\$ 252,601	\$ 257,058	\$ 265,880
Provision for loan losses	4,500	2,000	(4,000)	4,000	500
Charge offs	(15,486)	(6,151)	(17,304)	(14,926)	(12,155)
Recoveries	8,044	5,923	4,953	6,470	2,832
Net charge offs	(7,442)	(228)	(12,351)	(8,456)	(9,323)
Balance at end of period	\$ 235,081	\$ 238,023	\$ 236,250	\$ 252,601	\$ 257,058
Allowance for Unfunded Commitments					
Balance at beginning of period	\$ 24,336	\$ 25,336	\$ 26,336	\$ 26,336	\$ 24,400
Provision for unfunded commitments	1,500	(1,000)	(1,000)	—	(500)
Amount recorded at acquisition	—	—	—	—	2,436
Balance at end of period	\$ 25,836	\$ 24,336	\$ 25,336	\$ 26,336	\$ 26,336
Allowance for credit losses ^(a)	\$ 260,917	\$ 262,359	\$ 261,586	\$ 278,937	\$ 283,394
Provision for credit losses ^(b)	6,000	1,000	(5,000)	4,000	—
Net loan (charge offs) recoveries					
Commercial and industrial	\$ (7,428)	\$ 2,974	\$ (6,893)	\$ (6,606)	\$ (6,599)
Commercial real estate — owner occupied	1,193	282	(252)	270	(1,025)
Commercial and business lending	(6,235)	3,256	(7,145)	(6,336)	(7,624)
Commercial real estate — investor	31	(2,107)	(3,958)	(1,189)	8
Real estate construction	—	106	(195)	48	189
Commercial real estate lending	31	(2,001)	(4,153)	(1,141)	197
Total commercial	(6,203)	1,255	(11,298)	(7,477)	(7,427)
Residential mortgage	(457)	(94)	5	(135)	(131)
Home equity	309	(270)	200	140	(677)
Other consumer	(1,090)	(1,118)	(1,258)	(984)	(1,088)
Total consumer	(1,239)	(1,482)	(1,053)	(979)	(1,896)
Total net charge offs	\$ (7,442)	\$ (228)	\$ (12,351)	\$ (8,456)	\$ (9,323)
Ratios					
Allowance for loan losses to total loans	1.02%	1.04%	1.03%	1.10%	1.13%
Allowance for loan losses to net charge offs (annualized)	7.8x	263.1x	4.8x	7.4x	6.8x

(a) Includes the allowance for loan losses and the allowance for unfunded commitments.

(b) Includes the provision for loan losses and the provision for unfunded commitments.

Table 11 Annualized net (charge offs) recoveries^(a)

(In basis points)	March 31, 2019	December 31, 2018	September 30, 2018	June 30, 2018	March 31, 2018
Net loan (charge offs) recoveries					
Commercial and industrial	(40)	16	(39)	(39)	(41)
Commercial real estate — owner occupied	53	13	(11)	12	(48)
Commercial and business lending	(30)	16	(36)	(33)	(42)
Commercial real estate — investor	—	(22)	(40)	(12)	—
Real estate construction	—	3	(5)	1	5
Commercial real estate lending	—	(15)	(30)	(8)	1
Total commercial	(19)	4	(34)	(22)	(24)
Residential mortgage	(2)	—	—	(1)	(1)
Home equity	14	(12)	9	6	(30)
Other consumer	(123)	(121)	(133)	(105)	(115)
Total consumer	(5)	(6)	(4)	(4)	(8)
Total net charge offs	(13)	—	(21)	(15)	(17)

(a) Annualized ratio of net charge offs to average loans by loan type.

Notable Contributions to the Change in Allowance for Credit Losses

- Total loans increased \$208 million, or 1%, from December 31, 2018, primarily driven by a \$202 million, or 2%, increase in commercial and business lending. Compared to March 31, 2018, total loans increased \$338 million, or 1%, primarily driven by an \$862 million, or 11%, increase in commercial and business lending which was partially offset by a \$574 million, or 10%, decrease in commercial real estate lending. See section Loans for additional information on the changes in the loan portfolio and see section Credit Risk for discussion about credit risk management for each loan type.
- Potential problem loans decreased \$9 million, or 3%, from December 31, 2018 primarily due to the downward migration of commercial related credits and decreased \$41 million, or 14%, from March 31, 2018, primarily due to the improvement of commercial and industrial related credits. See Table 9 for additional information on the changes in potential problem loans.
- Total nonaccrual loans increased \$28 million, or 22%, from December 31, 2018, primarily due to migration in commercial and industrial credits. Compared to March 31, 2018, total nonaccrual loans decreased \$53 million, or 25%, primarily due to improvements in commercial credits. See also Note 7 Loans of the notes to consolidated financial statements and section Nonperforming Assets for additional disclosures on the changes in asset quality.
- Year-to-date net charge offs decreased \$2 million, or 20%, from the comparable period last year. See Table 10 and Table 11 for additional information regarding the activity in the allowance for loan losses.

Management believes the level of allowance for loan losses to be appropriate at March 31, 2019.

Deposits and Customer Funding

The following table summarizes the composition of our deposits and customer funding:

Table 12 Period End Deposit and Customer Funding Composition

(\$ in Thousands)	March 31, 2019		December 31, 2018		September 30, 2018		June 30, 2018		March 31, 2018	
	Amount	% of Total	Amount	% of Total	Amount	% of Total	Amount	% of Total	Amount	% of Total
Noninterest-bearing demand	\$ 5,334,154	21%	\$ 5,698,530	23%	\$ 5,421,270	22%	\$ 5,341,361	22%	\$ 5,458,473	23%
Savings	2,215,857	9%	2,012,841	8%	1,937,006	8%	1,887,777	8%	1,883,638	8%
Interest-bearing demand	5,226,362	20%	5,336,952	21%	5,096,998	21%	4,650,407	20%	4,719,566	20%
Money market	9,005,018	35%	9,033,669	36%	9,087,587	37%	9,208,993	39%	9,086,553	38%
Brokered CDs	387,459	2%	192,234	1%	235,711	1%	228,029	1%	44,503	—%
Other time	3,364,206	13%	2,623,167	11%	3,053,041	12%	2,499,747	10%	2,632,869	11%
Total deposits	\$ 25,533,057	100%	\$ 24,897,393	100%	\$ 24,831,612	100%	\$ 23,816,314	100%	\$ 23,825,602	100%
Customer funding ^(a)	146,027		137,364		184,269		235,804		297,289	
Total deposits and customer funding	\$ 25,679,083		\$ 25,034,757		\$ 25,015,882		\$ 24,052,118		\$ 24,122,891	
Network transaction deposits ^(b)	\$ 2,204,204		\$ 2,276,296		\$ 1,852,863		\$ 2,094,670		\$ 2,244,739	
Net deposits and customer funding (total deposits and customer funding, excluding Brokered CDs and network transaction deposits)	\$ 23,087,421		\$ 22,566,227		\$ 22,927,308		\$ 21,729,419		\$ 21,833,649	
Time deposits of more than \$250,000	\$ 1,634,965		\$ 924,332		\$ 1,350,256		\$ 804,210		\$ 906,727	

(a) Securities sold under agreement to repurchase and commercial paper.

(b) Included above in interest-bearing demand and money market.

- Deposits are the Corporation's largest source of funds.
- Total deposits increased \$636 million, or 3%, from December 31, 2018 and increased \$1.7 billion, or 7%, from March 31, 2018.
- Non-maturity deposit accounts comprised of savings, money market, and demand (both interest and noninterest-bearing) accounts comprised 85% of the Corporation's total deposits at March 31, 2019.

- Included in the above amounts were \$2.2 billion of network deposits, primarily sourced from other financial institutions and intermediaries. These represented 9% of the Corporation's total deposits at March 31, 2019.
- Other time deposits increased \$741 million, or 28%, from December 31, 2018 and increased \$731 million, or 28%, from March 31, 2018, primarily due to an increase in CDs issued to public entities.

Liquidity

The objective of liquidity risk management is to ensure that the Corporation has the ability to generate sufficient cash or cash equivalents in a timely and cost effective manner to satisfy the cash flow requirements of depositors and borrowers and to meet its other commitments as they become due. The Corporation's liquidity risk management process is designed to identify, measure, and manage the Corporation's funding and liquidity risk to meet its daily funding needs in the ordinary course of business, as well as to address expected and unexpected changes in its funding requirements. The Corporation engages in various activities to manage its liquidity risk, including diversifying its funding sources, stress testing, and holding readily-marketable assets which can be used as a source of liquidity, if needed.

The Corporation performs dynamic scenario analysis in accordance with industry best practices. Measures have been established to ensure the Corporation has sufficient high quality short-term liquidity to meet cash flow requirements under stressed scenarios. In addition, the Corporation also reviews static measures such as deposit funding as a percent of total assets and liquid asset levels. Strong capital ratios, credit quality, and core earnings are also essential to maintaining cost effective access to wholesale funding markets. At March 31, 2019, the Corporation was in compliance with its internal liquidity objectives and has sufficient asset-based liquidity to meet its obligations under a stressed scenario.

The Corporation maintains diverse and readily available liquidity sources, including:

- Investment securities are an important tool to the Corporation's liquidity objective, and can be pledged or sold to enhance liquidity, if necessary. See Note 6 Investment Securities of the notes to consolidated financial statements for additional information on the Corporation's investment securities portfolio, including investment securities pledged.
- The Bank pledges eligible loans to both the Federal Reserve Bank and the FHLB as collateral to establish lines of credit and borrow from these entities. Based on the amount of collateral pledged, the FHLB established a collateral value from which the Bank may draw advances against the collateral. The collateral is also used to enable the FHLB to issue letters of credit in favor of public fund depositors of the Bank. As of March 31, 2019, the Bank had \$3.4 billion available for future advances. The Federal Reserve Bank also establishes a collateral value of assets to support borrowings from the discount window. As of March 31, 2019, the Bank had \$2.8 billion available for discount window borrowings.
- The Parent Company has a \$200 million commercial paper program, of which, \$32 million was outstanding as of March 31, 2019.
- Dividends and service fees from subsidiaries, as well as the proceeds from issuance of capital, are funding sources for the Parent Company.
- The Parent Company has filed a shelf registration statement with the SEC under which the Parent Company may, from time to time, offer shares of the Corporation's common stock in connection with acquisitions of businesses, assets, or securities of other companies.
- The Parent Company also has filed a universal shelf registration statement with the SEC, under which the Parent Company may offer the following securities, either separately or in units: debt securities, preferred stock, depository shares, common stock, and warrants.
- The Bank may also issue institutional certificates of deposit, network transaction deposits, and brokered certificates of deposit.
- Associated Bank has implemented a global bank note program pursuant to which it may from time to time offer up to \$2.0 billion aggregate principal amount of its unsecured senior and subordinated notes.

Credit ratings relate to the Corporation’s ability to issue debt securities and the cost to borrow money, and should not be viewed as an indication of future stock performance or a recommendation to buy, sell, or hold securities. Adverse changes in these factors could result in a negative change in credit ratings and impact not only the ability to raise funds in the capital markets but also the cost of these funds. The credit ratings of the Parent Company and Associated Bank at March 31, 2019 are displayed below:

Table 13 Credit Ratings

	Moody’s	S&P
Bank short-term deposits	P-1	-
Bank long-term deposits/issuer	A1	BBB+
Corporation commercial paper	P-2	-
Corporation long-term senior debt/issuer	Baa1	BBB
Outlook	Stable	Stable

For three months ended March 31, 2019, net cash used in operating activities, investing activities, and financing activities was \$14 million, \$163 million, and \$54 million, respectively, for a net decrease in cash, cash equivalents, and restricted cash of \$230 million since year-end 2018. At March 31, 2019, assets of \$33.7 billion increased \$53 million from year-end 2018. On the funding side, deposits of \$25.5 billion increased \$636 million from year-end 2018.

For three months ended March 31, 2018, net cash provided by operating activities and financing activities was \$43 million and \$24 million, respectively, while investing activities used net cash of \$350 million, for a net decrease in cash, cash equivalents, and restricted cash of \$283 million since year-end 2017. At March 31, 2018, assets of \$33.4 billion increased \$2.9 billion, or 9%, from year-end 2017, primarily due to a \$2.0 billion net increase in loans, of which \$1.9 billion was from the Bank Mutual acquisition. On the funding side, deposits of \$23.8 billion increased \$1.0 billion, or 5%, from year-end 2017, primarily driven by \$1.8 billion of deposits assumed as a result of the Bank Mutual acquisition partially offset by seasonal deposit outflows.

Quantitative and Qualitative Disclosures about Market Risk

Market risk and interest rate risk are managed centrally. Market risk is the potential for loss arising from adverse changes in the fair value of fixed income securities, equity securities, other earning assets and derivative financial instruments as a result of changes in interest rates or other factors. Interest rate risk is the potential for reduced net interest income resulting from adverse changes in the level of interest rates. As a financial institution that engages in transactions involving an array of financial products, the Corporation is exposed to both market risk and interest rate risk. In addition to market risk, interest rate risk is measured and managed through a number of methods. The Corporation uses financial modeling simulation techniques that measure the sensitivity of future earnings due to changing rate environments to measure interest rate risk.

Policies established by the Corporation’s ALCO and approved by the Board of Directors are intended to limit these risks. The Board has delegated day-to-day responsibility for managing market and interest rate risk to ALCO. The primary objectives of market risk management is to minimize any adverse effect that changes in market risk factors may have on net interest income and to offset the risk of price changes for certain assets recorded at fair value.

Interest Rate Risk

The primary goal of interest rate risk management is to control exposure to interest rate risk within policy limits approved by the Board of Directors. These limits and guidelines reflect the Corporation's risk appetite for interest rate risk over both short-term and long-term horizons. No limit breaches occurred during the first three months of 2019.

The major sources of the Corporation's non-trading interest rate risk are timing differences in the maturity and re-pricing characteristics of assets and liabilities, changes in the shape of the yield curve, and the potential exercise of explicit or embedded options. We measure these risks and their impact by identifying and quantifying exposures through the use of sophisticated simulation and valuation models which are employed by management to understand NII at risk, interest rate sensitive EAR, and MVE at risk. The Corporation’s interest rate risk profile is such that a higher or steeper yield curve adds to income while a flatter yield curve is relatively neutral, and a lower or inverted yield curve generally has a negative impact on earnings. Based on current rate expectations for a flattening yield curve, the Corporation's earnings at risk profile is slightly asset sensitive at March 31, 2019. While the modeled outcome of instantaneous and sustained parallel rate shocks of 100 bp or more indicate increased asset sensitivity, which would provide increased earnings, we see a low probability of a sustained parallel shift occurring in the near term.

For further discussion of the Corporation's interest rate risk and corresponding key assumptions, see the Interest Rate Risk section of Management's Discussion and Analysis of Financial Condition and Results of Operations included in the Corporation's 2018 Annual Report on Form 10-K.

The sensitivity analysis included below is measured as a percentage change in NII and EAR due to instantaneous moves in benchmark interest rates from a baseline scenario. We evaluate the sensitivity using: 1) a dynamic forecast incorporating expected growth in the balance sheet, and 2) a static forecast where the current balance sheet is held constant.

Table 14 Estimated % Change in Rate Sensitive Earnings at Risk (EAR) Over 12 Months

	Dynamic Forecast March 31, 2019	Static Forecast March 31, 2019	Dynamic Forecast December 31, 2018	Static Forecast December 31, 2018
Instantaneous Rate Change				
100 bp increase in interest rates	4.8%	4.1%	5.0%	4.1%
200 bp increase in interest rates	9.5%	8.0%	9.9%	8.1%

At March 31, 2019, the MVE profile indicates a decline in net balance sheet value due to instantaneous upward changes in rates. MVE sensitivity is reported in both upward and downward rate shocks.

Table 15 Market Value of Equity Sensitivity

	March 31, 2019	December 31, 2018
Instantaneous Rate Change		
100 bp increase in interest rates	(2.3)%	(2.0)%
200 bp increase in interest rates	(5.4)%	(4.5)%

While an instantaneous and severe shift in interest rates was used in this analysis to provide an estimate of exposure under an extremely adverse scenario, the Corporation believes that a gradual shift in interest rates would have a much more modest impact. Since MVE measures the discounted present value of cash flows over the estimated lives of instruments, the change in MVE does not directly correlate to the degree that earnings would be impacted over a shorter time horizon (i.e., the current year). Further, MVE does not take into account factors such as future balance sheet growth, changes in product mix, changes in yield curve relationships, and changes in product spreads that could mitigate the adverse impact of changes in interest rates.

The above NII, EAR, and MVE measures do not include all actions that management may undertake to manage this risk in response to anticipated changes in interest rates.

Contractual Obligations, Commitments, Off-Balance Sheet Arrangements, and Contingent Liabilities

Table 16 summarizes significant contractual obligations and other commitments at March 31, 2019, at those amounts contractually due to the recipient, including any premiums or discounts, hedge basis adjustments, or other similar carrying value adjustments.

Table 16 Contractual Obligations and Other Commitments

March 31, 2019	One Year or Less	One to Three Years	Three to Five Years	Over Five Years	Total
(\$ in Thousands)					
Time deposits	\$ 2,706,368	\$ 923,141	\$ 117,280	\$ 4,876	\$ 3,751,665
Short-term funding	159,117	—	—	—	159,117
FHLB advances	32,703	104,099	454,330	2,353,638	2,944,769
Long-term funding	249,775	297,881	—	248,351	796,007
Operating leases	10,235	19,607	12,267	22,622	64,732
Commitments to extend credit	4,166,952	2,600,601	2,018,675	169,848	8,956,076
Total	\$ 7,325,150	\$ 3,945,329	\$ 2,602,552	\$ 2,799,335	\$ 16,672,366

The Corporation utilizes a variety of financial instruments in the normal course of business to meet the financial needs of its customers and to manage its own exposure to fluctuations in interest rates. These financial instruments include lending-related commitments and derivative instruments. A discussion of the Corporation's derivative instruments at March 31, 2019, is

included in Note 10 Derivative and Hedging Activities of the notes to consolidated financial statements. A discussion of the Corporation's lending-related commitments is included in Note 12 Commitments, Off-Balance Sheet Arrangements, Legal Proceedings and Regulatory Matters of the notes to consolidated financial statements. See also Note 9 Short and Long-Term Funding of the notes to consolidated financial statements for additional information on the Corporation's short-term funding, FHLB advances, and long-term funding.

Capital

Management actively reviews capital strategies for the Corporation and each of its subsidiaries in light of perceived business risks, future growth opportunities, industry standards, and compliance with regulatory requirements. The assessment of overall capital adequacy depends on a variety of factors, including asset quality, liquidity, stability of earnings, changing competitive forces, economic condition in markets served, and strength of management. At March 31, 2019, the capital ratios of the Corporation and its banking subsidiaries were in excess of regulatory minimum requirements. The Corporation's capital ratios are summarized in Table 17.

Table 17 Capital Ratios

	March 31, 2019	December 31, 2018	September 30, 2018	June 30, 2018	March 31, 2018
(\$ in Thousands)					
Risk-based Capital^(a)					
CET1	\$ 2,484,941	\$ 2,449,721	\$ 2,475,043	\$ 2,528,002	\$ 2,473,677
Tier 1 capital	2,741,159	2,705,939	2,731,194	2,686,658	2,632,912
Total capital	3,250,428	3,216,575	3,240,983	3,213,726	3,164,362
Total risk-weighted assets	24,140,413	23,875,278	23,907,156	24,059,029	23,535,483
CET1 capital ratio	10.29%	10.26%	10.35%	10.51%	10.51%
Tier 1 capital ratio	11.36%	11.33%	11.42%	11.17%	11.19%
Total capital ratio	13.46%	13.47%	13.56%	13.36%	13.45%
Tier 1 leverage ratio	8.49%	8.48%	8.43%	8.32%	8.48%
Selected Equity and Performance Ratios					
Total stockholders' equity / assets	11.38%	11.24%	11.34%	11.20%	11.13%
Dividend payout ratio ^(b)	34.00%	32.69%	30.61%	29.41%	36.59%

(a) The Federal Reserve establishes regulatory capital requirements, including well-capitalized standards for the Corporation. The Corporation follows Basel III, subject to certain transition provisions. These regulatory capital measurements are used by management, regulators, investors, and analysts to assess, monitor and compare the quality and composition of the Corporation's capital with the capital of other financial services companies.

(b) Ratio is based upon basic earnings per common share.

See Part II, Item 2, Unregistered Sales of Equity Securities and Use of Proceeds, for information on the shares repurchased during the first quarter of 2019.

Non-GAAP Measures

Table 18 Non-GAAP Measures

	Quarter Ended				
	March 31, 2019	December 31, 2018	September 30, 2018	June 30, 2018	March 31, 2018
	(\$ in Thousands)				
Selected Equity and Performance Ratios^{(a)(b)}					
Tangible common equity / tangible assets	7.20%	7.03%	7.11%	7.29%	7.22%
Return on average equity	9.21%	9.42%	9.06%	9.61%	7.96%
Return on average tangible common equity	14.52%	15.08%	14.14%	14.98%	11.99%
Return on average Common equity Tier 1	13.58%	13.94%	13.18%	14.00%	11.39%
Return on average assets	1.05%	1.07%	1.02%	1.07%	0.88%
Average stockholders' equity / average assets	11.41%	11.33%	11.22%	11.13%	11.00%
Tangible Common Equity and Common Equity Tier 1 Reconciliation^{(a)(b)}					
Common equity	\$ 3,579,153	\$ 3,524,171	\$ 3,540,322	\$ 3,610,843	\$ 3,552,846
Goodwill and other intangible assets, net	(1,242,554)	(1,244,859)	(1,246,991)	(1,247,011)	(1,232,870)
Tangible common equity	\$ 2,336,600	\$ 2,279,312	\$ 2,293,331	\$ 2,363,832	\$ 2,319,977
Tangible Assets Reconciliation^(a)					
Total assets	\$ 33,700,866	\$ 33,647,859	\$ 33,489,002	\$ 33,652,647	\$ 33,366,505
Goodwill and other intangible assets, net	(1,242,554)	(1,244,859)	(1,246,991)	(1,247,011)	(1,232,870)
Tangible assets	\$ 32,458,312	\$ 32,402,999	\$ 32,242,010	\$ 32,405,635	\$ 32,133,636
Average Tangible Common Equity and Average Common Equity Tier 1 Reconciliation^{(a)(b)}					
Common equity	\$ 3,558,414	\$ 3,490,043	\$ 3,589,387	\$ 3,561,319	\$ 3,377,388
Goodwill and other intangible assets, net	(1,244,007)	(1,246,102)	(1,246,089)	(1,235,623)	(1,107,503)
Tangible common equity	2,314,406	2,243,941	2,343,298	2,325,696	2,269,885
Less: Accumulated other comprehensive income / loss	115,767	137,190	125,225	117,497	89,105
Less: Deferred tax assets/deferred tax liabilities, net	45,132	45,790	44,749	45,308	30,943
Average common equity Tier 1	\$ 2,475,305	\$ 2,426,921	\$ 2,513,272	\$ 2,488,501	\$ 2,389,933
Efficiency Ratio Reconciliation^(c)					
Federal Reserve efficiency ratio	63.32 %	62.39 %	66.12 %	65.77 %	70.76 %
Fully tax-equivalent adjustment	(0.77)%	(0.75)%	(0.75)%	(0.65)%	(0.66)%
Other intangible amortization	(0.73)%	(0.72)%	(0.73)%	(0.68)%	(0.51)%
Fully tax-equivalent efficiency ratio	61.83 %	60.93 %	64.66 %	64.45 %	69.60 %

(a) The ratio tangible common equity to tangible assets excludes goodwill and other intangible assets, net, which is a non-GAAP financial measure. This financial measure has been included as it is considered to be a critical metric with which to analyze and evaluate financial condition and capital strength.

(b) The Federal Reserve establishes regulatory capital requirements, including well-capitalized standards for the Corporation. The Corporation follows Basel III, subject to certain transition provisions. These regulatory capital measurements are used by management, regulators, investors, and analysts to assess, monitor and compare the quality and composition of the Corporation's capital with the capital of other financial services companies.

(c) The efficiency ratio as defined by the Federal Reserve guidance is noninterest expense (which includes the provision for unfunded commitments) divided by the sum of net interest income plus noninterest income, excluding investment securities gains / losses, net. The fully tax-equivalent efficiency ratio is noninterest expense (which includes the provision for unfunded commitments), excluding other intangible amortization, divided by the sum of fully tax-equivalent net interest income plus noninterest income, excluding investment securities gains / losses, net. Management believes the fully tax-equivalent efficiency ratio, which adjusts net interest income for the tax-favored status of certain loans and investment securities, to be the preferred industry measurement as it enhances the comparability of net interest income arising from taxable and tax-exempt sources.

Sequential Quarter Results

The Corporation reported net income of \$87 million for the first quarter of 2019, compared to net income of \$89 million for the fourth quarter of 2018. Net income available to common equity was \$83 million for the first quarter of 2019 or \$0.50 for basic and diluted earnings per common share. Comparatively, net income available to common equity for the fourth quarter of 2018 was \$85 million, or net income of \$0.52 for basic and \$0.51 diluted earnings per common share, respectively (see Table 1).

Fully tax-equivalent net interest income for the first quarter of 2019 was \$219 million, \$8 million lower than the fourth quarter of 2018. The net interest margin in the first quarter of 2019 was down 12 bp to 2.90%. Average earning assets increased \$378 million to \$30.4 billion in the first quarter of 2019, primarily driven by a \$357 million increase in commercial and business lending. On the funding side, average interest-bearing deposits were up \$710 million while noninterest-bearing demand deposits were down \$384 million (see Table 2).

The provision for credit losses was \$6 million for the first quarter of 2019, up from \$1 million in the fourth quarter of 2018 (see Table 10). See discussion under sections: Provision for Credit Losses, Nonperforming Assets, and Allowance for Credit Losses.

Noninterest income for the first quarter of 2019 increased \$7 million, or 9%, to \$91 million compared to the fourth quarter of 2018. Insurance commission fees increased \$4 million, or 20%, from the fourth quarter of 2018 primarily driven by seasonally higher property and casualty revenues. Asset gains (losses), net was up \$3 million from the fourth quarter of 2018 primarily driven by a \$2 million write-off in the fourth quarter of 2018 relating to the sale of the Corporation's ownership interest in a profit participation. (see Table 9).

Noninterest expense decreased \$1 million, or 1%, to \$192 million, primarily driven by a decrease of \$2 million in each of the following categories: business development and advertising, legal and professional, and FDIC assessment costs. These decreases were partially offset by a \$4 million increase in personnel expense driven by the annual incentive grant.

For the first quarter of 2019, the Corporation recognized income tax expense of \$22 million, compared to income tax expense of \$25 million for the fourth quarter of 2018. The effective tax rate was 20.53% and 21.83% for the first quarter of 2019 and the fourth quarter of 2018, respectively. See Income Taxes section for a detailed discussion on income taxes.

Segment Review

As discussed in Note 15 Segment Reporting of the notes to consolidated financial statements, the Corporation's reportable segments have been determined based upon its internal profitability reporting system, which is organized by strategic business unit. Certain strategic business units have been combined for segment information reporting purposes where the nature of the products and services, the type of customer, and the distribution of those products and services are similar. The reportable segments are Corporate and Commercial Specialty; Community, Consumer and Business; and Risk Management and Shared Services.

Table 19 Selected Segment Financial Data

(\$ in Thousands)	Three Months Ended March 31,		
	2019	2018	Change
Corporate and Commercial Specialty			
Total revenue	\$ 104,733	\$ 108,641	(4)%
Credit provision	13,485	10,598	27 %
Noninterest expense	38,788	39,250	(1)%
Income tax expense (benefit)	10,003	11,426	(12)%
Average earning assets	12,270,017	11,389,211	8 %
Average loans	12,260,613	11,378,390	8 %
Average deposits	8,215,954	8,057,246	2 %
Average allocated capital (Average CET1) ^(a)	1,225,325	1,171,038	5 %
Return on average allocated capital (ROCET1) ^(a)	14.05 %	16.40 %	(235) bp
Community, Consumer, and Business			
Total revenue	\$ 185,737	\$ 177,579	5 %
Credit provision	5,033	4,966	1 %
Noninterest expense	130,863	127,144	3 %
Income tax expense (benefit)	10,443	9,549	9 %
Average earning assets	10,333,020	10,137,899	2 %
Average loans	10,330,071	10,133,202	2 %
Average deposits	13,736,939	13,096,782	5 %
Average allocated capital (Average CET1) ^(a)	648,153	632,723	2 %
Return on average allocated capital (ROCET1) ^(a)	24.65 %	23.02 %	163 bp
Risk Management and Shared Services			
Total revenue	\$ 16,280	\$ 14,031	16 %
Credit provision	(12,518)	(15,563)	(20)%
Noninterest expense	21,893	46,571	(53)%
Income tax expense (benefit)	1,947	(3,146)	N/M
Average earning assets	7,792,143	7,755,022	— %
Average loans	512,830	566,936	(10)%
Average deposits	2,603,316	2,496,870	4 %
Average allocated capital (Average CET1) ^(a)	601,827	586,172	3 %
Return on average allocated capital (ROCET1) ^(a)	0.78 %	(11.19)%	N/M
Consolidated Total			
Total revenue	\$ 306,749	\$ 300,251	2 %
Return on average allocated capital (ROCET1) ^(a)	13.58 %	11.39 %	219 bp

(a) The Federal Reserve establishes capital adequacy requirements for the Corporation, including common equity Tier 1. For segment reporting purposes, the return on common equity Tier 1 ("ROCET1") reflects return on average allocated common equity Tier 1. The ROCET1 for the Risk Management and Shared Services segment and the Consolidated Total is inclusive of the annualized effect of the preferred stock dividends. Please refer to Table 18 for a reconciliation of non-GAAP financial measures to GAAP financial measures.

Notable Changes in Segment Financial Data

The Corporate and Commercial Specialty segment consists of lending and deposit solutions to larger businesses, developers, not-for-profits, municipalities, and financial institutions, and the support to deliver, fund, and manage such banking solutions.

- Revenue decreased \$4 million, or 4%, from the first three months of 2018 primarily due to decreased segment net interest income of \$3 million.
- Credit provision increased \$3 million, or 27%, from the first three months of 2018.
- Average loans increased \$882 million, or 8%, from the first three months of 2018 primarily due to growth in commercial and business lending of \$1.1 billion.

The Community, Consumer, and Business segment consists of lending and deposit solutions to individuals and small to mid-sized businesses and also provides a variety of investment and fiduciary products and services.

- Revenue increased \$8 million, or 5%, from the first three months of 2018 primarily due to increased segment net interest income.
- Noninterest expense increased \$4 million, or 3%, from the first three months of 2018 in part due to the acquisitions of Diversified and Anderson during the first and second quarters of 2018, respectively.
- Average deposits increased \$640 million, or 5%, from the first three months of 2018.

The Risk Management and Shared Services segment includes key shared Corporate functions, Parent Company activity, intersegregation eliminations, and residual revenues and expenses.

- Revenue increased \$2 million, or 16%, from the first quarter of 2018 primarily driven by \$2 million of investment securities gains during the first three months of 2019.
- Noninterest expense, from the first three months of 2018, decreased \$25 million, or 53%, primarily driven by \$21 million of acquisition related costs recorded in the first three months of 2018. In addition, certain unallocated expenses related to Bank Mutual shared services and operations were recorded in Risk Management and Shared Services prior to system conversion in late June 2018.
- Income tax expense increased \$5 million from the first quarter of 2018 primarily driven by higher income before taxes.

Critical Accounting Policies

In preparing the consolidated financial statements, management is required to make estimates and assumptions that affect the reported amounts of assets and liabilities as of the date of the balance sheet and revenues and expenses for the period. Actual results could differ significantly from those estimates. Estimates that are particularly susceptible to significant change include the determination of the allowance for loan losses, goodwill impairment assessment, mortgage servicing rights valuation, and income taxes. A discussion of these policies can be found in the Critical Accounting Policies section in Management's Discussion and Analysis of Financial Condition and Results of Operations included in the Corporation's 2018 Annual Report on Form 10-K. There have been no changes in the Corporation's application of critical accounting policies since December 31, 2018.

Future Accounting Pronouncements

New accounting policies adopted by the Corporation are discussed in Note 3 Summary of Significant Accounting Policies of the notes to consolidated financial statements.

The expected impact of accounting pronouncements recently issued or proposed but not yet required to be adopted are displayed in the table below:

Standard	Description	Date of anticipated adoption	Effect on financial statements
ASU 2016-13 Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments	The FASB issued an amendment to replace the current incurred loss impairment methodology. Under the new guidance, entities will be required to measure expected credit losses by utilizing forward-looking information to assess an entity's allowance for credit losses. The guidance also requires consideration of a broader range of reasonable and supportable information to inform credit loss estimates. The measurement of expected credit losses is based on relevant information about past events, including historical experience, current conditions, and reasonable and supportable forecasts that affect the collectability of the reported amount. An entity must use judgment in determining the relevant information and estimation methods that are appropriate in its circumstances. This amendment is effective for fiscal years beginning after December 15, 2019, including interim periods within those fiscal years. Entities should apply the amendment by means of a cumulative-effect adjustment to retained earnings as of the beginning of the fiscal year of adoption. ASU 2018-19 was issued to clarify that receivables arising from operating leases are not within the scope of Subtopic 326-20. Instead, impairment of receivables arising from operating leases should be accounted for in accordance with Topic 842, Leases. Early adoption is permitted.	1st Quarter 2020	The Corporation is currently evaluating the impact on its results of operations, financial position and liquidity. A cross-functional team, consisting of credit, risk management, finance and information technology is currently developing the allowance methodology and assumptions that will be used under the new life of loan methodology. In determining the appropriate methodology, the Corporation has reviewed portfolio segmentation, data, system requirements or upgrades, and the development of models. The Corporation will continue to review and update assumptions, as appropriate. This amendment is required to be adopted using a modified retrospective approach with a cumulative-effect adjustment to the opening retained earnings balance as of the beginning of the first reporting period in which the guidance is effective. While the financial impact of adopting this amendment has not yet been quantified, it is anticipated there will be an increase to the Allowance for Credit Losses as a result of the change from an incurred loss model to an expected loss model which encompasses losses expected over the life of the loan. The extent of the increase is dependent upon the composition of the portfolio, credit quality, and the economic conditions and forecasts at the time of adoption.
ASU 2018-13 Fair Value Measurement (Topic 820): Disclosure Framework—Changes to the Disclosure Requirements for Fair Value Measurement	The FASB issued an amendment to add, modify, and remove disclosure requirements on fair value measurements in Topic 820, Fair Value Measurement, based on the FASB Concepts Statement "Conceptual Framework for Financial Reporting", including the consideration of costs and benefits. The amendment is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2019. The amendments on changes in unrealized gains and losses, the range and weighted average of significant unobservable inputs used to develop Level 3 fair value measurements, and the narrative description of measurement uncertainty should be applied prospectively for only the most recent interim or annual period presented in the initial fiscal year of adoption. All other amendments should be applied retrospectively to all periods presented upon their effective date. Early adoption is permitted.	1st Quarter 2020	The Corporation is currently evaluating the impact on its results of operations, financial position and liquidity.
ASU 2017-04 Intangibles - Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment	The FASB issued an amendment to simplify the subsequent quantitative measurement of goodwill by eliminating step two from the goodwill impairment test. Instead, an entity will perform only step one of its quantitative goodwill impairment test by comparing the fair value of a reporting unit with its carrying amount, and then recognizing an impairment charge for the amount by which the carrying amount exceeds the reporting unit's fair value; however, the loss recognized should not exceed the total amount of goodwill allocated to that reporting unit. An entity will still have the option to perform a qualitative assessment for a reporting unit to determine if the quantitative step one impairment test is necessary. This amendment is effective for annual or interim goodwill impairment tests in fiscal years beginning after December 15, 2019. Entities should apply the amendment prospectively. Early adoption is permitted, including in an interim period, for impairment tests performed after January 1, 2017.	2nd Quarter 2020, consistent with the Corporation's annual impairment test in May of each year.	The Corporation is currently evaluating the impact on its results of operations, financial position, and liquidity. The Corporation has not had to perform a step one quantitative analysis since 2012, which concluded no impairment was necessary.

The expected impact of accounting pronouncements recently issued or proposed but not yet required to be adopted are displayed in the table below: (continued)

Standard	Description	Date of anticipated adoption	Effect on financial statements
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 FASB issued an amendment to modify the disclosure requirements for employers that sponsor defined benefit pension or other postretirement plans. The amendments also added requirements to disclose the weighted-average interest crediting rates for cash balance plans and other plans with promised interest crediting rates and an explanation of the reasons for significant gains and losses related to changes in the benefit obligation for the period. The amendment also clarifies the disclosure requirements in paragraph 715-20-50-3, which states that certain information for defined benefit pension plans should be disclosed. 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. The amendment is effective for fiscal years ending after December 15, 2020. Entities should apply the amendments in this Update on a retrospective basis to all periods presented. Early adoption is permitted.	1st Quarter 2021	The Corporation is currently evaluating the impact on its results of operations, financial position and liquidity.

Recent Developments

On April 30, 2019, the Corporation's Board of Directors declared a regular quarterly cash dividend of \$0.17 per common share, payable on June 17, 2019, to shareholders of record at the close of business on June 3, 2019. The Board of Directors also declared a regular quarterly cash dividend of \$0.3828125 per depositary share on Associated Banc-Corp's 6.125% Series C Perpetual Preferred Stock, payable on June 17, 2019 to shareholders of record at the close of business on June 3, 2019. The Board of Directors also declared a regular quarterly cash dividend of \$0.3359375 per depositary share on Associated's 5.375% Series D Perpetual Preferred Stock, payable on June 17, 2019 to shareholders of record at the close of business on June 3, 2019. The Board of Directors also declared a regular quarterly cash dividend of \$0.3671875 per depositary share on Associated's 5.875% Series E Perpetual Preferred Stock, payable on June 17, 2019 to shareholders of record at the close of business on June 3, 2019.

ITEM 3. Quantitative and Qualitative Disclosures About Market Risk

Information required by this item is set forth in Item 2 under the captions Quantitative and Qualitative Disclosures about Market Risk and Interest Rate Risk.

ITEM 4. Controls and Procedures

The Corporation maintains disclosure controls and procedures as required under Rule 13a-15 promulgated under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), that are designed to ensure that information required to be disclosed in the Corporation's Exchange Act reports is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and that such information is accumulated and communicated to the Corporation's management, including its Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure.

As of March 31, 2019, the Corporation's management carried out an evaluation, under the supervision and with the participation of the Corporation's Chief Executive Officer and Chief Financial Officer, of the effectiveness of its disclosure controls and procedures. Based on the foregoing, its Chief Executive Officer and Chief Financial Officer concluded that the Corporation's disclosure controls and procedures were effective as of March 31, 2019.

No changes were made to the Corporation's internal control over financial reporting (as defined in Rule 13a-15(f) of the Exchange Act of 1934) during the last fiscal quarter that have materially affected, or are reasonably likely to materially affect, the Corporation's internal control over financial reporting.

PART II - OTHER INFORMATION

ITEM 1. Legal Proceedings

The information required by this item is set forth in Part I, Item 1 under Note 12 Commitments, Off-Balance Sheet Arrangements, Legal Proceedings and Regulatory Matters of the notes to consolidated financial statements.

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

During the first quarter of 2019, the Corporation repurchased \$30 million, or approximately 1.3 million shares, of common stock. The repurchase details are presented in the table below:

Common Stock Purchases

Period	Total Number of Shares Purchased ^(a)	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 the Plans or Programs
January 1, 2019 - January 31, 2019	—	\$ —	—	—
February 1, 2019 - February 28, 2019	—	—	—	—
March 1, 2019 - March 31, 2019	1,308,301	22.93	1,308,301	—
Total	1,308,301	\$ 22.93	1,308,301	8,493,672

(a) During the first quarter of 2019, the Corporation repurchased 331,901 common shares for minimum tax withholding settlements on equity compensation. These purchases do not count against the maximum number of shares that may yet be purchased under the Board of Directors' authorization.

On February 5, 2019, the Board of Directors authorized the repurchase of up to \$100 million of Associated's common stock. This repurchase authorization is in addition to the previously authorized repurchases. There remains approximately \$81 million under the previous authorizations, such that there is now approximately \$181 million authorized in the aggregate.

Repurchases under such authorizations are subject to any necessary regulatory approvals and other limitations and may occur from time to time in open market purchases, block transactions, private transactions, accelerated share repurchases, or similar facilities

Preferred Stock Purchases

During the first quarter of 2019, the Corporation did not repurchase any shares of preferred stock.

On August 28, 2015, the Board of Directors authorized the repurchase of up to \$10 million of depository shares of the Series C Preferred Stock, of which all of such depository shares remained available to repurchase as of March 31, 2019. Using the closing stock price on March 31, 2019 of \$25.83, a total of approximately 387,000 shares remained available to be repurchased under the previously approved Board authorizations as of March 31, 2019.

On July 25, 2017, the Board of Directors authorized the repurchase of up to \$15 million of depository shares of the Series D Preferred Stock, of which approximately \$14 million remained available to repurchase as of March 31, 2019. Using the closing stock price on March 31, 2019 of \$24.46, a total of approximately 591,000 shares remained available to be repurchased under the previously approved Board authorizations as of March 31, 2019.

The repurchase of depository shares is based on market and investment opportunities, capital levels, growth prospects, and regulatory constraints. Such repurchases may occur from time to time in open market purchases, block transactions, private transactions, accelerated share repurchase programs, or similar facilities.

(a) Exhibits:

[Exhibit \(31.1\), Certification Under Section 302 of Sarbanes-Oxley by Philip B. Flynn, Chief Executive Officer.](#)

[Exhibit \(31.2\), Certification Under Section 302 of Sarbanes-Oxley by Christopher J. Del Moral-Niles, Chief Financial Officer.](#)

[Exhibit \(32\), Certification by the Chief Executive Officer and Chief Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of Sarbanes-Oxley.](#)

Exhibit (101), Interactive data files pursuant to Rule 405 of Regulation S-T: (i) Unaudited Consolidated Balance Sheets, (ii) Unaudited Consolidated Statements of Income, (iii) Unaudited Consolidated Statements of Comprehensive Income, (iv) Unaudited Consolidated Statements of Changes in Stockholders' Equity, (v) Unaudited Consolidated Statements of Cash Flows, and (vi) Notes to Consolidated Financial Statements.

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 hereunto duly authorized.

ASSOCIATED BANC-CORP

(Registrant)

Date: April 30, 2019

/s/ Philip B. Flynn

Philip B. Flynn

President and Chief Executive Officer

Date: April 30, 2019

/s/ Christopher J. Del Moral-Niles

Christopher J. Del Moral-Niles

Chief Financial Officer

Date: April 30, 2019

/s/ Tammy C. Stadler

Tammy C. Stadler

Principal Accounting Officer

Exhibit 31.1

**CERTIFICATION UNDER SECTION 302 OF THE
SARBANES-OXLEY ACT OF 2002**

CERTIFICATIONS

I, Philip B. Flynn, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Associated Banc-Corp;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: April 30, 2019

/s/ Philip B. Flynn

Philip B. Flynn

President and Chief Executive Officer

Exhibit 31.2

**CERTIFICATION UNDER SECTION 302 OF THE
SARBANES-OXLEY ACT OF 2002**

CERTIFICATIONS

I, Christopher J. Del Moral-Niles, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Associated Banc-Corp;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: April 30, 2019

/s/ Christopher J. Del Moral-Niles

Christopher J. Del Moral-Niles

Chief Financial Officer

Exhibit 32

Certification by the Chief Executive Officer and Chief Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002

Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, each of the undersigned officers of Associated Banc-Corp, a Wisconsin corporation (the "Company"), does hereby certify that:

1. The accompanying Quarterly Report of the Company on Form 10-Q for the quarter ended March 31, 2019 (the "Report"), fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
2. Information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ Philip B. Flynn

Philip B. Flynn

Chief Executive Officer

April 30, 2019

/s/ Christopher J. Del Moral-Niles

Christopher J. Del Moral-Niles

Chief Financial Officer

April 30, 2019