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

FORM 10-K

(Mark One)

☑ ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 31, 2016

☐ 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	**39-1098068**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
433 Main Street **Green Bay, Wisconsin**	**54301**
(Address of principal executive offices)	(Zip Code)

Registrant's telephone number, including area code: (920) 491-7500
SECURITIES REGISTERED PURSUANT TO SECTION 12(b) OF THE ACT:

Title of each class	**Name of each exchange on which registered**
Common stock, par value $0.01 per share	The New York Stock Exchange
Depositary Shares, each representing a 1/40th interest in a share of 6.125% Non-Cumulative Perpetual Preferred Stock, Series C	The New York Stock Exchange
Depositary Shares, each representing a 1/40th interest in a share of 5.375% Non-Cumulative Perpetual Preferred Stock, Series D	The New York Stock Exchange
Warrants to purchase shares of Common Stock of Associated Banc-Corp	NYSE MKT

SECURITIES REGISTERED PURSUANT TO SECTION 12(g) OF THE ACT:
None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.
Yes ☑ No ☐

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act.
Yes ☐ No ☑

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

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

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§ 229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☐

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

Large accelerated filer ☑ Accelerated filer ☐ Non-accelerated filer ☐ Smaller reporting company ☐
(Do not check if a smaller reporting company)

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

As of June 30, 2016, (the last business day of the registrant's most recently completed second fiscal quarter) the aggregate market value of the voting stock held by nonaffiliates of the registrant was approximately $2,556,756,000. This excludes approximately $33,520,000 of market value representing the outstanding shares of the registrant owned by all directors and officers who individually, in certain cases, or collectively, may be deemed affiliates. This includes approximately $53,882,000 of market value representing 2.08% of the outstanding shares of the registrant held in a fiduciary capacity by the trust company subsidiary of the registrant.

As of February 1, 2017, 151,806,015 shares of common stock were outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Document:	Part of Form 10-K Into Which Portions of Documents are Incorporated:
Proxy Statement for Annual Meeting of Shareholders on April 25, 2017	Part III

ASSOCIATED BANC-CORP
2016 FORM 10-K TABLE OF CONTENTS

		Page
PART I		
Item 1.	Business	1
Item 1A.	Risk Factors	12
Item 1B.	Unresolved Staff Comments	28
Item 2.	Properties	28
Item 3.	Legal Proceedings	28
Item 4.	Mine Safety Disclosures	28
PART II		
Item 5.	Market for Registrant's Common Equity, Related Stockholder Matters And Issuer Purchases of Equity Securities	32
Item 6.	Selected Financial Data	34
Item 7.	Management's Discussion and Analysis of Financial Condition and Results of Operations	35
Item 7A.	Quantitative and Qualitative Disclosures About Market Risk	74
Item 8.	Financial Statements and Supplementary Data	75
Item 9.	Changes in and Disagreements With Accountants on Accounting and Financial Disclosure	143
Item 9A.	Controls and Procedures	143
Item 9B.	Other Information	145
PART III		
Item 10.	Directors, Executive Officers and Corporate Governance	145
Item 11.	Executive Compensation	145
Item 12.	Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters	145
Item 13.	Certain Relationships and Related Transactions, and Director Independence	145
Item 14.	Principal Accounting Fees and Services	145
PART IV		
Item 15.	Exhibits and Financial Statement Schedules	146
Item 16.	Form 10-K Summary	149
Signatures		149

Special Note Regarding Forward-Looking Statements

This document, including the documents that are incorporated by reference, contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the "Securities Act") and Section 21E of the Exchange Act (the "Exchange Act"). You can identify forward-looking statements by words such as "may," "should," "expect," "plan," "anticipate," "intend," "believe," "estimate," "predict," "potential," "continue," "could," "future," "outlook," or the negative of those terms or other words of similar meaning. You should read statements that contain these words carefully because they discuss our future expectations or state other "forward-looking" information. Such forward-looking statements may relate to our financial condition, results of operations, plans, objectives, future performance, or business and are based upon the beliefs and assumptions of our management and the information available to our management at the time these disclosures are prepared. These forward-looking statements involve risks and uncertainties that we may not be able to accurately predict or control and our actual results may differ materially from those we described in our forward-looking statements. Shareholders should be aware that the occurrence of the events discussed under the heading "Risk Factors" in this document, and in the information incorporated by reference herein, could have an adverse effect on our business, results of operations, and financial condition. These factors, many of which are beyond our control, include the following:

- credit risks, including changes in economic conditions and risk relating to our allowance for credit losses;
- liquidity and interest rate risks, including the impact of capital market conditions and changes in monetary policy on our borrowings and net interest income;
- operational risks, including processing, information systems, cybersecurity, vendor problems, business interruption, and fraud risks;
- strategic and external risks, including economic, political, and competitive forces impacting our business;
- legal, compliance, and reputational risks, including regulatory and litigation risks; and
- the risk that our analyses of these risks and forces could be incorrect and / or that the strategies developed to address them could be unsuccessful.

For a discussion of these and other risks that may cause actual results to differ from expectations, please refer to the "Risk Factors" section of this document. The forward-looking statements contained or incorporated by reference in this document relate only to circumstances as of the date on which the statements are made. We undertake no obligation to update or revise any forward-looking statements, whether as a result of new information, future events, or otherwise.

PART I

ITEM 1. BUSINESS

General

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," "Associated," "we," "us," or "our") is a bank holding company registered pursuant to the Bank Holding Company Act of 1956, as amended (the "BHC Act"). Our bank subsidiary, Associated Bank, National Association ("Associated Bank" or the "Bank") traces its history back to the founding of the Bank of Neenah in 1861. We were incorporated in Wisconsin in 1964 and were inactive until 1969 when permission was received from the Board of Governors of the Federal Reserve System (the "Federal Reserve" or "FRB") to acquire three banks. At December 31, 2016, we owned one nationally chartered commercial bank headquartered in Green Bay, Wisconsin which serves local communities across the upper Midwest, one nationally chartered trust company headquartered in Wisconsin, and 10 limited purpose banking and nonbanking subsidiaries either located in or conducting business primarily in our three-state footprint (Wisconsin,

Illinois, and Minnesota) that are closely related or incidental to the business of banking or financial in nature. Measured by total assets reported at December 31, 2016, we are the largest commercial bank holding company headquartered in Wisconsin and one of the top 50, publicly traded, bank holding companies headquartered in the U.S.

Services

Through Associated Bank and various nonbanking subsidiaries, we provide a broad array of banking and nonbanking products and services to individuals and businesses through 217 banking branches serving more than 100 communities, primarily within our three state branch footprint. Our business is primarily relationship-driven and is organized into three reportable segments: Corporate and Commercial Specialty; Community, Consumer, and Business; and Risk Management and Shared Services. See Note 21 Segment Reporting of the notes to consolidated financial statements in Part II, Item 8, “Financial Statements and Supplementary Data,” for additional information concerning our reportable segments.

We are not dependent upon a single or a few customers, the loss of which would have a material adverse effect on us.

Employees

At December 31, 2016, we had 4,441 full-time equivalent employees. None of our employees are represented by unions.

Competition

The financial services industry is highly competitive. We compete for loans, deposits, and financial services in all of our principal markets. We compete directly with other bank and nonbank institutions located within our markets, internet-based banks, out-of-market banks and bank holding companies that advertise or otherwise serve our markets, money market and other mutual funds, brokerage houses, and various other financial institutions. Additionally, we compete with insurance companies, leasing companies, regulated small loan companies, credit unions, governmental agencies, and commercial entities offering financial services products. Competition involves efforts to retain current customers and to obtain new loans and deposits, the scope and type of services offered, interest rates paid on deposits and charged on loans, as well as other aspects of banking. We also face direct competition from subsidiaries of bank holding companies that have far greater assets and resources than ours.

Supervision and Regulation

Overview

The Corporation and its banking and nonbanking subsidiaries are subject to extensive regulation and oversight both at the federal and state levels. The following is an overview of the statutory and regulatory framework that affects the business of the Corporation and our subsidiaries.

Bank Holding Company Act Requirements

As a registered bank holding company under the BHC Act, we are regulated, supervised, and examined by the Federal Reserve. In connection with applicable requirements, bank holding companies file periodic reports and other information with the Federal Reserve. The BHC Act also governs the activities that are permissible for bank holding companies and their affiliates and permits the Federal Reserve, in certain circumstances, to issue cease and desist orders and other enforcement actions against bank holding companies and their nonbanking affiliates to correct and curtail unsafe or unsound banking practices. Under the Dodd-Frank Wall Street Reform and Consumer Protection Act (the “Dodd-Frank Act”) and longstanding Federal Reserve policy, bank holding companies are required to act as a source of financial strength to each of their banking subsidiaries pursuant to which such holding company may be required to commit financial resources to support such subsidiaries in circumstances when, absent such requirements, they might not otherwise do. The BHC Act further regulates holding company activities,

including requirements and limitations relating to capital, transactions with officers, directors and affiliates, securities issuances, dividend payments, inter-affiliate liabilities, extensions of credit, and expansion through mergers and acquisitions.

The BHC Act allows certain qualifying bank holding companies that elect treatment as “financial holding companies” to engage in activities that are financial in nature and that explicitly include the underwriting and sale of insurance. The Parent Company thus far has not elected to be treated as a financial holding company. Bank holding companies that have not elected such treatment generally must limit their activities to banking activities and activities that are closely related to banking.

Regulation of Associated Bank and Trust Company

Associated Bank and our nationally chartered trust company subsidiary are regulated, supervised and examined by the Office of the Comptroller of the Currency (the “OCC”). The OCC has primary supervisory and regulatory authority over the operations of the Corporation’s national bank and trust company subsidiaries. As part of this authority, the national bank and trust company subsidiaries are required to file periodic reports with the OCC and are subject to regulation, supervision and examination by the OCC. Associated Bank, our only subsidiary that accepts insured deposits, is also subject to examination by the Federal Deposit Insurance Corporation ("FDIC"). We are subject to the enforcement and rule-making authority of the Consumer Financial Protection Bureau ("CFPB") regarding consumer financial products. The CFPB has the authority to create and enforce consumer protection rules and regulations and has the power to examine us for compliance with such rules and regulations. The CFPB also has the authority to prohibit “unfair, deceptive or abusive” acts and practices. The CFPB has examination and enforcement authority over all banks with more than $10 billion in assets, such as Associated Bank. The Dodd-Frank Act weakens the federal preemption available for national banks and gives broader rights to state attorneys general to enforce certain federal consumer protection laws.

Banking Acquisitions

We are required to obtain prior Federal Reserve approval before acquiring more than 5% of the voting shares, or substantially all of the assets, of a bank holding company, bank or savings association. In addition, the prior approval of the OCC is required for a national bank to merge with another bank or purchase the assets or assume the deposits of another bank. In determining whether to approve a proposed bank acquisition, federal bank regulators will consider, among other factors, the effect of the acquisition on competition, the public benefits expected to be received from the acquisition, the projected capital ratios and levels on a post-acquisition basis, and the acquiring institution’s record of addressing the credit needs of the communities it serves, including the needs of low and moderate income neighborhoods, consistent with the safe and sound operation of the bank, under the Community Reinvestment Act. See the “Risk Factors” section for a more extensive discussion of this topic.

Banking Subsidiary Dividends

The Parent Company is a legal entity separate and distinct from its banking and other subsidiaries. A substantial portion of our revenue comes from dividends paid to us by Associated Bank. The OCC’s prior approval of the payment of dividends by Associated Bank to the Parent Company is required only if the total of all dividends declared by the Bank in any calendar year exceeds the sum of the Bank’s retained net income for that year and its retained net income for the preceding two calendar years, less any required transfers to surplus. Federal law also prohibits national banks from paying dividends that would be greater than the bank’s undivided profits after deducting statutory bad debt in excess of the bank’s allowance for loan losses. In addition, under the Federal Deposit Insurance Corporation Improvement Act (“FDICIA”), an insured depository institution such as the Bank is prohibited from making capital distributions, including the payment of dividends, if, after making such distribution, the institution would become “undercapitalized” (as such term is used in the FDICIA).

Holding Company Dividends

In addition, we and our banking subsidiary are subject to various general regulatory policies and requirements relating to the payment of dividends, including requirements to maintain adequate capital above regulatory minimums. The appropriate federal regulatory authority is authorized to determine under certain circumstances relating to the financial condition of a bank or bank holding company that the payment of dividends would be an unsafe or unsound practice and to prohibit payment thereof. Under the Dodd-Frank Act and the requirements of the FRB, the Corporation, as a bank holding company, is required to serve as a source of financial strength to the Bank and to commit resources to support the Bank. In addition, consistent with its "source of strength" policy, the FRB has stated that, as a matter of prudent banking, a bank holding company should not maintain a level of cash dividends to its shareholders that places undue pressure on the capital of its bank subsidiaries, or that can be funded only through additional borrowings or other arrangements that may undermine the bank holding company's ability to serve as a source of strength. The appropriate federal regulatory authorities have indicated that paying dividends that deplete a bank's capital base to an inadequate level would be an unsafe and unsound banking practice and that banking organizations should generally pay dividends only out of current operating earnings.

Capital and Stress Testing Requirements

Capital Requirements

We are subject to various regulatory capital requirements both at the Parent Company and at the Bank level administered by the Federal Reserve and the OCC, respectively. Failure to meet minimum capital requirements could result in certain mandatory and possible additional discretionary actions by regulators that, if undertaken, could have an adverse material effect on our financial condition and results of operations. Under capital adequacy guidelines and the regulatory framework for prompt corrective action (described below), we must meet specific capital guidelines that involve quantitative measures of our assets, liabilities, and certain off-balance sheet items as calculated under regulatory accounting policies. Our capital amounts and classification are also subject to judgments by the regulators regarding qualitative components, risk weightings, and other factors. We have consistently maintained regulatory capital ratios at or above the well capitalized standards.

In July 2013, the Federal Reserve and the OCC issued final rules establishing a new comprehensive capital framework for U.S. banking organizations. These rules implemented certain provisions of the Dodd-Frank Act and a separate international framework established by the Basel Committee on Banking Supervision for the regulation of capital and liquidity, generally referred to as "Basel III." The final rules seek to strengthen the components of regulatory capital, increase risk-based capital requirements, and make selected changes to the calculation of risk-weighted assets. The final rules, among other things:

- revise minimum capital requirements and adjust prompt corrective action thresholds;
- revise the components of regulatory capital and create a new capital measure called "Common Equity Tier 1," which must constitute at least 4.5% of risk-weighted assets;
- specify that Tier 1 capital consists only of Common Equity Tier 1 and certain "Additional Tier 1 Capital" instruments meeting specified requirements;
- apply most deductions / adjustments to regulatory capital measures to Common Equity Tier 1 and not to other components of capital, potentially requiring higher levels of Common Equity Tier 1 in order to meet minimum ratio requirements;
- increase the minimum Tier 1 capital ratio requirement from 4% to 6%;
- retain the existing risk-based capital treatment for 1-4 family residential mortgage exposures;
- permit most banking organizations, including the Parent Company, to retain, through a one-time permanent election, the existing capital treatment for accumulated other comprehensive income;
- implement a new capital conservation buffer of Common Equity Tier 1 capital equal to 2.5% of risk-weighted assets, which will be in addition to the 4.5% Common Equity Tier 1 capital ratio and be phased in over a three year period beginning January 1, 2016. This buffer is generally required to make capital distributions and pay executive bonuses;

- increase capital requirements for past due loans, high volatility commercial real estate exposures, and certain short-term loan commitments;
- require the deduction of mortgage servicing assets and deferred tax assets that exceed 10% of Common Equity Tier 1 capital in each category and 15% of Common Equity Tier 1 capital in the aggregate; and
- remove references to credit ratings consistent with the Dodd-Frank Act and establish due diligence requirements for securitization exposures.

Under the final rules, compliance was required beginning January 1, 2015 for most banking organizations, including the Parent Company and Associated Bank, subject to a transition period for several aspects of the final rules, including the new minimum capital ratio requirements, the capital conservation buffer, and the regulatory capital adjustments and deductions. Requirements to maintain higher levels of capital could adversely impact our return on equity. We believe we will continue to exceed all capital requirements necessary to be deemed "well-capitalized" for all regulatory purposes under these new rules on a fully phased-in basis. For further detail on capital and capital ratios see discussion under Part II, Item 7, “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” sections, “Liquidity” and “Capital,” and under Part II, Item 8, “Financial Statements and Supplementary Data,” Note 19 Regulatory Matters of the notes to consolidated financial statements.

Capital Planning and Stress Testing Requirements

On October 12, 2012, the federal bank regulatory agencies published final rules implementing the company-run stress test requirements mandated by the Dodd-Frank Act for U.S. bank holding companies with total consolidated assets of $10 billion to $50 billion. Under the rules, we are required to conduct annual company-run stress tests using different scenarios (baseline, adverse and severely adverse) provided annually by the Federal Reserve and the OCC, the primary federal regulator for the Bank. The stress test is designed to assess the potential impact of different scenarios on earnings, losses and capital over a set time period, with consideration given to certain factors, including the organization’s condition, risks, exposures, strategies and activities. The banking agencies have issued guidance on stress testing for banking organizations with more than $10 billion in total consolidated assets. This guidance outlines four “high-level” principles for stress testing practices that regulators expect banking organizations to include in their stress testing framework. In particular, the stress testing framework should (i) include activities and exercises that are tailored to and sufficiently capture the banking organization’s exposures, activities and risks, (ii) employ multiple conceptually sound stress testing activities and approaches, (iii) be forward-looking and flexible, and (iv) be clear, actionable, well-supported, and used in the decision-making process.

Beginning in 2016, the dates of the stress testing cycle have shifted. Banking organizations with total consolidated assets of $10 billion to $50 billion are required to report the results of the stress test by July 31 of each year, using data as of December 31 of the preceding year, and subsequently publish a summary of the results between October 15 and October 31. We timely submitted our stress test report to the OCC and Federal Reserve before its required due date of July 31, 2016, and a summary of the results was publicly disclosed on October 17, 2016, as required by the final rules. We anticipate that our pro forma capital ratios, as reflected in the stress test calculations under the required stress test scenarios, will be an important factor considered by the Federal Reserve in evaluating whether proposed payments of dividends or stock repurchases are consistent with its prudential expectations. Requirements to maintain higher levels of capital or liquidity to address potential adverse stress scenarios could adversely impact our net income and our return on equity.

Enforcement Powers of the Federal Banking Agencies; Prompt Corrective Action

The Federal Reserve, the OCC, and the CFPB have extensive supervisory authority over their regulated institutions, including, among other things, the power to compel higher reserves, the ability to assess civil money penalties, the ability to issue cease-and-desist or removal orders and the ability to initiate injunctive actions. In general, these enforcement actions may be initiated for violations of laws and regulations or for unsafe or unsound banking practices. Other actions or inactions by the Parent Company may provide the basis for enforcement action, including misleading or untimely reports.

Federal banking regulators are authorized and, under certain circumstances, required to take certain actions against banks that fail to meet their capital requirements. The federal banking agencies have additional enforcement authority with respect to undercapitalized depository institutions.

“Well capitalized” institutions may generally operate without supervisory restriction. With respect to “adequately capitalized” institutions, such banks cannot normally pay dividends or make any capital contributions that would leave it undercapitalized; they cannot pay a management fee to a controlling person if, after paying the fee, it would be undercapitalized; and they cannot accept, renew or roll over any brokered deposit unless the bank has applied for and been granted a waiver by the FDIC.

The federal banking agencies are required to take action to restrict the activities of an “undercapitalized,” “significantly undercapitalized,” or “critically undercapitalized” insured depository institution. Any such bank must submit a capital restoration plan that is guaranteed by the parent holding company. Until such plan is approved, it may not increase its assets, acquire another institution, establish a branch or engage in any new activities, and generally may not make capital distributions. In certain situations, a federal banking agency may reclassify a well-capitalized institution as adequately capitalized and may require an adequately capitalized or undercapitalized institution to comply with supervisory actions as if the institution were in the next lower category.

Institutions must file a capital restoration plan with the OCC within 45 days of the date it receives a notice from the OCC that it is “undercapitalized,” “significantly undercapitalized,” or “critically undercapitalized.” Compliance with a capital restoration plan must be guaranteed by a parent holding company. In addition, the OCC is permitted to take any one of a number of discretionary supervisory actions, including but not limited to the issuance of a capital directive and the replacement of senior executive officers and directors.

Finally, bank regulatory agencies have the ability to impose higher than normal capital requirements known as individual minimum capital requirements for institutions with a high-risk profile.

At December 31, 2016, the Bank satisfied the capital requirements necessary to be deemed “well capitalized.” The imposition of any of the measures described above could have a material adverse effect on the Corporation and on its profitability and operations. The Corporation’s shareholders do not have preemptive rights and, therefore, if the Corporation is directed by the OCC or the FDIC to issue additional shares of common stock, such issuance may result in dilution in shareholders’ percentage of ownership of the Corporation.

Deposit Insurance Premiums

Associated Bank is a member of the FDIC and pays an insurance premium to the FDIC based upon its assessment rates on a quarterly basis. Deposits are insured up to applicable limits by the FDIC and such insurance is backed by the full faith and credit of the United States Government.

Under the Dodd-Frank Act, a permanent increase in deposit insurance was authorized to $250,000 per depositor, per insured depository institution for each account ownership category.

The Dodd-Frank Act also set a new minimum Deposit Insurance Fund ("DIF") reserve ratio at 1.35% of estimated insured deposits. The FDIC is required to attain this ratio by September 30, 2020. The Dodd-Frank Act also required the FDIC to define the deposit insurance assessment base for an insured depository institution as an amount equal to the institution’s average consolidated total assets during the assessment period minus average tangible equity. The assessment rate schedule for larger institutions like Associated Bank (i.e., institutions with at least $10 billion in assets) differentiates between such large institutions by use of a “scorecard” that combines an institution’s CAMELS ratings with certain forward-looking financial information to measure the risk to the DIF. Pursuant to this “scorecard” method, two scores (a performance score and a loss severity score) will be combined and converted to an initial base assessment rate. The performance score measures an institution’s financial performance and ability to withstand stress. The loss severity score measures the relative magnitude of potential losses to the DIF in the event of the institution’s failure. Total scores are converted pursuant to a predetermined formula into an initial base assessment rate. Assessment rates range from 2.5 basis points to 45 basis points (“bp”) for large institutions.

Premiums for Associated Bank are now calculated based upon the average balance of total assets minus average tangible equity as of the close of business for each day during the calendar quarter.

The FDIC has the flexibility to adopt actual rates that are higher or lower than the total base assessment rates adopted without notice and comment, if certain conditions are met.

DIF-insured institutions pay a Financing Corporation (“FICO”) assessment in order to fund the interest on bonds issued in the 1980s in connection with the failures in the thrift industry. The FICO assessment was computed on assets as required by the Dodd-Frank Act. These assessments will continue until the bonds mature in 2019. The Corporation’s combined assessment rate for FDIC and FICO assessments was approximately 12 bp for 2016.

The FDIC is authorized to conduct examinations of and require reporting by FDIC-insured institutions. It is also authorized to terminate a depository bank’s deposit insurance upon a finding by the FDIC that the bank’s financial condition is unsafe or unsound or that the institution has engaged in unsafe or unsound practices or has violated any applicable rule, regulation, order or condition enacted or imposed by the bank’s regulatory agency. The termination of deposit insurance for our national bank subsidiary would have a material adverse effect on our earnings, operations and financial condition.

Standards for Safety and Soundness

The federal banking agencies have adopted the Interagency Guidelines for Establishing Standards for Safety and Soundness. The Guidelines establish certain safety and soundness standards for all depository institutions. The operational and managerial standards in the Guidelines relate to the following: (1) internal controls and information systems; (2) internal audit systems; (3) loan documentation; (4) credit underwriting; (5) interest rate exposure; (6) asset growth; (7) compensation, fees and benefits; (8) asset quality; and (9) earnings. Rather than providing specific rules, the Guidelines set forth basic compliance considerations and guidance with respect to a depository institution. Failure to meet the standards in the Guidelines, however, could result in a request by the OCC to one of the nationally chartered banks to provide a written compliance plan to demonstrate its efforts to come into compliance with such Guidelines. Failure to provide a plan or to implement a provided plan requires the appropriate federal banking agency to issue an order to the institution requiring compliance.

Transactions with Affiliates and Insiders

Transactions between our national banking subsidiary and its related parties or any affiliate are governed by Sections 23A and 23B of the Federal Reserve Act. An affiliate is any company or entity, which controls, is controlled by or is under common control with the bank. In a holding company context, at a minimum, the parent holding company of a national bank and any companies that are controlled by such parent holding company are affiliates of the bank. Generally, Sections 23A and 23B (i) limit the extent to which an institution or its subsidiaries may engage in “covered transactions” with any one affiliate to an amount equal to 10% of such institution’s capital stock and surplus, and contain an aggregate limit on all such transactions with all affiliates to an amount equal to 20% of such capital stock and surplus, and (ii) require that all such transactions be on terms substantially the same, or at least as favorable, to the institution or subsidiary as those provided to a nonaffiliate. The term “covered transaction” includes the making of loans, purchase of assets, issuance of a guarantee and similar types of transactions. Certain types of covered transactions must be collateralized according to a schedule set forth in the statute based on the type of collateral.

Certain transactions with our directors, officers or controlling persons are also subject to conflicts of interest regulations. Among other things, these regulations require that loans to such persons and their related interests be made on terms substantially the same as for loans to unaffiliated individuals and must not create an abnormal risk of repayment or other unfavorable features for the financial institution. See Note 4 Loans of the notes to consolidated financial statements in Part II, Item 8, “Financial Statements and Supplementary Data,” for additional information on loans to related parties.

Community Reinvestment Act Requirements

Our national bank subsidiary, Associated Bank, is subject to periodic Community Reinvestment Act ("CRA") reviews by the OCC. The CRA does not establish specific lending requirements or programs for financial institutions and does not limit the ability of such institutions to develop products and services believed best-suited for a particular community. An institution's CRA assessment may be used by its regulators in their evaluation of certain applications, including a merger, acquisition or the establishment of a branch office. An unsatisfactory rating may be used as the basis for denial of such an application.

On August 31, 2016, the Bank received a CRA rating from the OCC of "Needs to Improve" for the period 2006-2010. The "Needs to Improve" rating restricts certain of our activities, including certain mergers and acquisitions and the establishment or relocation of Bank branches and certain other facilities. The rating also resulted in the loss of expedited processing of applications to undertake certain activities, such as changes in permanent capital and the exercise of the fiduciary powers of the Bank, and requires the Bank to receive prior approval to issue or prepay certain subordinated debt obligations. These restrictions, among others, will remain in place at least until the Bank's next CRA rating is publicly released by the OCC. The OCC has examined the Bank's CRA performance for the period 2011-2014, and the public release of that rating is expected in 2017. While there can be no assurance as to future CRA ratings issued by the OCC, the Corporation expects an improved rating for the 2011-2014 period.

Cybersecurity

Federal banking agencies, including the OCC, have adopted guidelines for establishing information security standards and cybersecurity programs for implementing safeguards under the supervision of the board of directors. These guidelines, along with related regulatory materials, increasingly focus on risk management and processes related to information technology and the use of third parties in the provision of financial services. In October 2016, the federal banking agencies issued an advance notice of proposed rulemaking on enhanced cybersecurity risk-management and resilience standards that would apply to large and interconnected banking organizations and to services provided by third parties to these firms. These enhanced standards would apply only to depository institutions and depository institution holding companies with total consolidated assets of $50 billion or more.

Privacy

Under privacy protection provisions of the Gramm-Leach-Bliley Act of 1999, we are limited in our ability to disclose non-public information about consumers to nonaffiliated third parties. Financial institutions, such as our national bank subsidiary, are required by statute and regulation to disclose their privacy policies to consumers and, in some circumstances, allow consumers to prevent disclosure of certain personal information to a nonaffiliated third party. In addition, such financial institutions must appropriately safeguard its customers' nonpublic, personal information.

Bank Secrecy Act / Anti-Money Laundering

The Bank Secrecy Act ("BSA"), which is intended to require financial institutions to develop policies, procedures, and practices to prevent and deter money laundering, mandates that every national bank have a written, board-approved program that is reasonably designed to assure and monitor compliance with the BSA. The program must, at a minimum: (1) provide for a system of internal controls to assure ongoing compliance; (2) provide for independent testing for compliance; (3) designate an individual responsible for coordinating and monitoring day-to-day compliance; and (4) provide training for appropriate personnel. In addition, national banks are required to adopt a customer identification program as part of its BSA compliance program. National banks are also required to file Suspicious Activity Reports when they detect certain known or suspected violations of federal law or suspicious transactions related to a money laundering activity or a violation of the BSA. In May 2016, the regulations implementing the BSA were amended to explicitly include risk-based procedures for conducting ongoing customer due diligence, to include understanding the nature and purpose of customer relationships for the purpose of developing a customer risk profile. In addition, banks must identify and verify the identity of the beneficial owners of all legal entity customers (other than those that are excluded) at the time a new account is opened (other than

accounts that are exempted). The Bank must comply with these amendments and new requirements by May 11, 2018.

On February 23, 2012, Associated Bank entered into a Consent Order with the OCC regarding its BSA compliance, which required the Bank to take a variety of measures to ensure ongoing compliance with the BSA and related regulations. The Consent Order was terminated in March 2014. In connection with the termination, the Bank entered into a Stipulation and Consent Order for a Civil Money Penalty with the OCC dated June 26, 2014, which provided for the payment by the Bank of a civil money penalty of $500,000. The civil money penalty was paid in June 2014.

In addition to complying with the BSA, the Bank is subject to the Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act of 2001 (the "Patriot Act"). The Patriot Act is designed to deny terrorists and criminals the ability to obtain access to the United States' financial system and has significant implications for depository institutions, brokers, dealers, and other businesses involved in the transfer of money. The Patriot Act mandates that financial service companies implement additional policies and procedures and take heightened measures designed to address any or all of the following matters: customer identification programs, money laundering, terrorist financing, identifying and reporting suspicious activities and currency transactions, currency crimes, and cooperation between financial institutions and law enforcement authorities.

Interstate Branching

Pursuant to the Dodd-Frank Act, national and state-chartered banks may open an initial branch in a state other than its home state (e.g., a host state) by establishing a de novo branch at any location in such host state at which a bank chartered in such host state could establish a branch. Applications to establish such branches must still be filed with the appropriate primary federal regulator.

Volcker Rule

The Dodd-Frank Act prohibits insured depository institutions and their holding companies from engaging in proprietary trading except in limited circumstances, and prohibits them from owning equity interests in excess of three percent (3%) of Tier 1 Capital in private equity and hedge funds (known as the "Volcker Rule"). On December 10, 2013, five U.S. financial regulators, including the Federal Reserve and the OCC, adopted final rules (the "Final Rules") implementing the Volcker Rule. The Final Rules prohibit banking entities from (1) engaging in short-term proprietary trading for their own accounts, and (2) having certain ownership interests in and relationships with hedge funds or private equity funds, which are referred to as "covered funds." The Final Rules are intended to provide greater clarity with respect to both the extent of those primary prohibitions and of the related exemptions and exclusions. The Final Rules also require each regulated entity to establish an internal compliance program that is consistent with the extent to which it engages in activities covered by the Volcker Rule, which must include (for the largest entities) making regular reports about those activities to regulators. Although the Final Rules provide some tiering of compliance and reporting obligations based on size, the fundamental prohibitions of the Volcker Rule apply to banking entities of any size, including the Parent Company and Associated Bank. The Final Rules were effective April 1, 2014, but the conformance period was extended from its statutory end date of July 21, 2014 until July 21, 2015. In addition, the Federal Reserve granted extensions until July 21, 2017 of the conformance period for banking entities to conform investments in and relationships with covered funds that were in place prior to December 31, 2013, and in December 2016 provided guidance allowing for additional extensions to the conformance period for certain illiquid funds. The Corporation has evaluated the implications of the Final Rules on its investments and does not expect any material financial implications.

Incentive Compensation Policies and Restrictions

In July 2010, the federal banking agencies issued Guidance on Sound Incentive Compensation Policies that applies to all banking organizations supervised by the agencies (thereby including both the Parent Company and the Bank). Pursuant to the guidance, to be consistent with safety and soundness principles, a banking organization's incentive compensation arrangements should: (1) provide employees with incentives that appropriately balance risk and

reward; (2) be compatible with effective controls and risk management; and (3) be supported by strong corporate governance including active and effective oversight by the banking organization's board of directors. Monitoring methods and processes used by a banking organization should be commensurate with the size and complexity of the organization and its use of incentive compensation.

Section 956 of the Dodd-Frank Act requires the federal banking agencies and the Securities and Exchange Commission (the "SEC") to establish joint regulations or guidelines prohibiting incentive-based payment arrangements at specified regulated entities that encourage inappropriate risk-taking by providing an executive officer, employee, director or principal shareholder with excessive compensation, fees, or benefits or that could lead to material financial loss to the entity. The federal banking agencies issued such proposed rules in April 2011 and issued a revised proposed rule in June 2016 implementing the requirements and prohibitions set forth in Section 956. The revised proposed rule would apply to all banks, among other institutions, with at least $1 billion in average total consolidated assets, for which it would go beyond the existing Guidance on Sound Incentive Compensation Policies to (i) prohibit certain types and features of incentive-based compensation arrangements for senior executive officers, (ii) require incentive-based compensation arrangements to adhere to certain basic principles to avoid a presumption of encouraging inappropriate risk, (iii) require appropriate board or committee oversight and (iv) establish minimum recordkeeping and (v) mandate disclosures to the appropriate federal banking agency.

Consumer Financial Services Regulations

Federal and applicable state banking laws also require us to take steps to protect consumers. Bank regulatory agencies are increasingly focusing attention on compliance with consumer protection laws and regulations. These laws include disclosures regarding truth in lending, truth in savings, and funds availability.

To promote fairness and transparency for mortgages, credit cards, and other consumer financial products and services, the Dodd-Frank Act established the CFPB. This agency is responsible for interpreting and enforcing federal consumer financial laws, as defined by the Dodd-Frank Act, that, among other things, govern the provision of deposit accounts along with mortgage origination and servicing. Some federal consumer financial laws enforced by the CFPB include the Equal Credit Opportunity Act, the Truth in Lending Act ("TILA"), the Truth in Savings Act, the Home Mortgage Disclosure Act, the Real Estate Settlement Procedures Act ("RESPA"), the Equal Credit Opportunity Act, the Fair Debt Collection Practices Act, and the Fair Credit Reporting Act. The CFPB is also authorized to prevent any institution under its authority from engaging in an unfair, deceptive, or abusive act or practice in connection with consumer financial products and services.

Under TILA as implemented by Regulation Z, as amended by the CFPB effective January 10, 2014, mortgage lenders are required to make a reasonable and good faith determination based on verified and documented information that a consumer applying for a mortgage loan has a reasonable ability to repay the loan according to its terms. Mortgage lenders are required to determine consumers' ability to repay in one of two ways. The first alternative requires the mortgage lender to consider the following eight underwriting factors when making the credit decision: (1) current or reasonably expected income or assets; (2) current employment status; (3) the monthly payment on the covered transaction; (4) the monthly payment on any simultaneous loan; (5) the monthly payment for mortgage-related obligations; (6) current debt obligations, alimony, and child support; (7) the monthly debt-to-income ratio or residual income; and (8) credit history. Alternatively, the mortgage lender can originate "qualified mortgages," which are entitled to a presumption that the creditor making the loan satisfied the ability-to-repay requirements. In general, a "qualified mortgage" is a mortgage loan without negative amortization, interest-only payments, balloon payments, or terms exceeding 30 years. In addition, to be a qualified mortgage the points and fees paid by a consumer cannot exceed 3% of the total loan amount. Qualified mortgages that are "higher-priced" (e.g., subprime loans) garner a rebuttable presumption of compliance with the ability-to-repay rules, while qualified mortgages that are not "higher-priced" (e.g. prime loans) are given a safe harbor of compliance. The Corporation is predominantly an originator of compliant qualified mortgages.

Additionally, the CFPB has the authority to take supervisory and enforcement action against banks and other financial services companies under the agency's jurisdiction that fail to comply with federal consumer financial laws. As an insured depository institution with total assets of more than $10 billion, the Bank is subject to the CFPB's supervisory and enforcement authorities. The Dodd-Frank Act also permits states to adopt stricter consumer protection laws and state attorneys general to enforce consumer protection rules issued by the CFPB. As a result of these aspects of the Dodd-Frank Act, the Bank operates in a stringent consumer compliance environment. Therefore, the Bank is likely to incur additional costs related to consumer protection compliance, including but not limited to potential costs associated with CFPB examinations, regulatory and enforcement actions and consumer-oriented litigation, which is likely to increase as a result of the consumer protection provisions of the Dodd-Frank Act. The CFPB has been active in bringing enforcement actions against banks and other financial institutions to enforce consumer financial laws, and has developed a number of new enforcement theories and applications of these laws. Other federal financial regulatory agencies, including the OCC, also have become increasingly active in this area with respect to institutions over which they have jurisdiction. We have incurred and may in the future incur additional costs in complying with these requirements.

Pursuant to the Dodd-Frank Act, the FDIC has backup enforcement authority over a depository institution holding company, such as the Parent Company, if the conduct or threatened conduct of such holding company poses a risk to the DIF, although such authority may not be used if the holding company is generally in sound condition and does not pose a foreseeable and material risk to the DIF. The Dodd-Frank Act may have a material impact on the Corporation's and the Bank's operations, particularly through increased compliance costs resulting from possible future consumer and fair lending regulations. See the "Risk Factors" section for a more extensive discussion of this topic.

Operation Under Conciliation Agreement

On May 22, 2015, the Bank entered into a Conciliation Agreement with the U.S. Department of Housing and Urban Development ("HUD"). The Conciliation Agreement resolved a HUD investigation into the Bank's compliance with fair housing laws during the period from 2008 to 2011. Under the Conciliation Agreement, the Bank made commitments to various requirements, including those related to: (i) general non-discrimination; (ii) training; (iii) future branch locations and loan production offices; and (iv) community investment. The Bank continues to operate under and meet the commitments described in the Conciliation Agreement, which remains effective until May 22, 2018. Should the Bank breach the terms of the agreement and fail to correct such breaches in a reasonable time, the matter may be referred to the U.S. Attorney General to commence a civil action under the Fair Housing Act.

Other Banking Regulations

The Bank is also subject to a variety of other regulations with respect to the operation of its businesses, including but not limited to the Dodd-Frank Act, which among other restrictions placed limitations on the interchange fees charged for debit card transactions, TILA, Truth in Savings Act, Equal Credit Opportunity Act, Electronic Funds Transfer Act, Fair Housing Act, Home Mortgage Disclosure Act, Fair Debt Collection Practices Act, Fair Credit Reporting Act, Expedited Funds Availability (Regulation CC), Reserve Requirements (Regulation D), Insider Transactions (Regulation O), Privacy of Consumer Information (Regulation P), Margin Stock Loans (Regulation U), Right To Financial Privacy Act, Flood Disaster Protection Act, Homeowners Protection Act, Servicemembers Civil Relief Act, RESPA, Telephone Consumer Protection Act, CAN-SPAM Act, Children's Online Privacy Protection Act, and the John Warner National Defense Authorization Act.

The laws and regulations to which we are subject are constantly under review by Congress, the federal regulatory agencies, and the state authorities. These laws and regulations could be changed drastically in the future, which could affect our profitability, our ability to compete effectively, or the composition of the financial services industry in which we compete.

Government Monetary Policies and Economic Controls

Our earnings and growth, as well as the earnings and growth of the banking industry, are affected by the credit policies of monetary authorities, including the Federal Reserve. An important function of the Federal Reserve is to regulate the national supply of bank credit in order to combat recession and curb inflationary pressures. Among the instruments of monetary policy used by the Federal Reserve to implement these objectives are open market operations in U.S. government securities, changes in reserve requirements against member bank deposits, and changes in the Federal Reserve discount rate. These means are used in varying combinations to influence overall growth of bank loans, investments, and deposits, and may also affect interest rates charged on loans or paid for deposits. The monetary policies of the Federal Reserve authorities have had a significant effect on the operating results of commercial banks in the past and are expected to continue to have such an effect in the future.

In view of changing conditions in the national economy and in money markets, as well as the effect of credit policies by monetary and fiscal authorities, including the Federal Reserve, it is difficult to predict the impact of possible future changes in interest rates, deposit levels, and loan demand, or their effect on our business and earnings or on the financial condition of our various customers.

Other Regulatory Authorities

In addition to regulation, supervision and examination by federal banking agencies, the Corporation and certain of its subsidiaries, including those that engage in securities brokerage, dealing and investment advisory activities, are subject to other federal and applicable state securities laws and regulations, and to supervision and examination by other regulatory authorities, including the SEC, the Financial Industry Regulatory Authority ("FINRA"), the New York Stock Exchange ("NYSE"), the Department of Labor ("DOL") and others. In particular, the Bank's securities brokerage and investment advisory services and activities may be impacted by final rules issued by the DOL in April 2016, which are being phased into effect between June 2016 and January 2018. In addition, the Bank's insurance agency subsidiary is also subject to regulation and supervision in the various states in which it operates.

Available Information

We file annual, quarterly, and current reports, proxy statements, and other information with the SEC. These filings are available to the public on the Internet at the SEC's web site at www.sec.gov. Shareholders may also read and copy any document that we file at the SEC's public reference rooms located at 100 F Street, NE, Washington, DC 20549. Shareholders may call the SEC at 1-800-SEC-0330 for further information on the public reference room.

Our principal internet address is www.associatedbank.com. We make available free of charge on or through our website our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC. In addition, shareholders may request a copy of any of our filings (excluding exhibits) at no cost by writing or e-mailing us using the following information: Associated Banc-Corp, Attn: Investor Relations, 433 Main Street, Green Bay, WI 54301. Our Code of Business Conduct and Ethics, Corporate Governance Guidelines, committee charters for standing committees of the Board and other governance documents are all available on our website, www.associatedbank.com, "Investor Relations," "Governance Documents." We will disclose on our website amendments to or waivers from our Code of Ethics in accordance with all applicable laws and regulations. Information contained on any of our websites is not deemed to be a part of this Annual Report.

ITEM 1A. RISK FACTORS

An investment in our common stock is subject to risks inherent to our business. The material risks and uncertainties that management believes affect us are described below. Before making an investment decision, you should carefully consider the risks and uncertainties described below, together with all of the other information included or incorporated by reference herein. The risks and uncertainties described below are not the only ones facing us.

Additional risks and uncertainties that management is not aware of or focused on or that management currently deems immaterial may also impair our business operations. This report is qualified in its entirety by these risk factors. See also, "Special Note Regarding Forward-Looking Statements."

If any of the events described in the risk factors should actually occur, our financial condition and results of operations could be materially and adversely affected. If this were to happen, the value of our securities could decline significantly, and you could lose all or part of your investment.

Credit Risks

Changes in economic and political conditions could adversely affect our earnings, as our borrowers' ability to repay loans and the value of the collateral securing our loans decline. Our success depends, to a certain extent, upon local, national and global economic and political conditions, as well as governmental monetary policies. Conditions such as an economic recession, rising unemployment, changes in interest rates, money supply and other factors beyond our control may adversely affect our asset quality, deposit levels and loan demand and, therefore, our earnings. Because we have a significant amount of real estate loans, decreases in real estate values could adversely affect the value of property used as collateral. Adverse changes in the economy may also have a negative effect on the ability of our borrowers to make timely repayments of their loans, which could have an adverse impact on our earnings. Consequently, declines in the economy could have a material adverse effect on our financial condition and results of operations.

Our allowance for loan losses may be insufficient. All borrowers have the potential to default, and our remedies in the event of such default (such as seizure and / or sale of collateral, legal actions, and guarantees) may not fully satisfy the debt owed to us. We maintain an allowance for loan losses, which is a reserve established through a provision for loan losses charged to expense, that represents management's best estimate of probable credit losses that have been incurred within the existing portfolio of loans. The allowance for loan losses, in the judgment of management, is necessary to reserve for estimated loan losses and risks inherent in the loan portfolio. The level of the allowance for loan losses reflects management's continuing evaluation of industry concentrations; specific credit risks; loan loss experience; current loan portfolio quality; present economic, political, and regulatory conditions; and unidentified losses inherent in the current loan portfolio. The determination of the appropriate level of the allowance for loan losses inherently involves a high degree of subjectivity and requires us to make significant estimates of current credit risks using existing qualitative and quantitative information, all of which may undergo material changes. Changes in economic conditions affecting borrowers, new information regarding existing loans, identification of additional problem loans, and other factors, both within and outside of our control, may require an increase in the allowance for loan losses. In addition, bank regulatory agencies periodically review our allowance for loan losses and may require an increase in the provision for loan losses or the recognition of additional loan charge offs, based on judgments different than those of management. An increase in the allowance for loan losses would result in a decrease in net income, and possibly risk-based capital, and could have a material adverse effect on our financial condition and results of operations.

The FASB has recently issued an accounting standard update that will result in a significant change in how we recognize credit losses and may have a material impact on our financial condition or results of operations.

In June 2016, the Financial Accounting Standards Board ("FASB") issued an accounting standard update, "Financial Instruments-Credit Losses (Topic 326), Measurement of Credit Losses on Financial Instruments," which replaces the current "incurred loss" model for recognizing credit losses with an "expected loss" model referred to as the Current Expected Credit Loss ("CECL") model. Under the CECL model, we will be required to present certain financial assets carried at amortized cost, such as loans held for investment and held-to-maturity debt securities, at the net amount expected to be collected. The measurement of expected credit losses is to be based on information about past events, including historical experience, current conditions, and reasonable and supportable forecasts that affect the collectability of the reported amount. This measurement will take place at the time the financial asset is first added to the balance sheet and periodically thereafter. This differs significantly from the "incurred loss" model required under current generally accepted accounting principles ("GAAP"), which delays recognition until it is probable a loss has been incurred. Accordingly, we expect that the adoption of the CECL model will

materially affect how we determine our allowance for loan losses and could require us to significantly increase our allowance. Moreover, the CECL model may create more volatility in the level of our allowance for loan losses. If we are required to materially increase our level of allowance for loan losses for any reason, such increase could adversely affect our business, financial condition and results of operations.

The new CECL standard will become effective for us for fiscal years beginning after December 15, 2019 and for interim periods within those fiscal years. We are currently evaluating the impact the CECL model will have on our accounting, but we expect to recognize a one-time cumulative-effect adjustment to our allowance for loan losses as of the beginning of the first reporting period in which the new standard is effective, consistent with regulatory expectations set forth in interagency guidance issued at the end of 2016. We cannot yet determine the magnitude of any such one-time cumulative adjustment or of the overall impact of the new standard on our financial condition or results of operations.

We are subject to lending concentration risks. As of December 31, 2016, approximately 62% of our loan portfolio consisted of commercial and industrial, real estate construction, commercial real estate loans, and lease financing (collectively, "commercial loans"). Commercial loans are generally viewed as having more inherent risk of default than residential mortgage loans or other consumer loans. Also, the commercial loan balance per borrower is typically larger than that for residential mortgage loans and other consumer loans, inferring higher potential losses on an individual loan basis. Because our loan portfolio contains a number of commercial loans with balances over $25 million, the deterioration of one or a few of these loans could cause a significant increase in nonaccrual loans, which could have a material adverse effect on our financial condition and results of operations.

Commercial real estate lending may expose us to increased lending risks. Our policy generally has been to originate commercial real estate loans in the eight states in which the Bank operates. At December 31, 2016, commercial real estate loans totaled $5.9 billion, or 29% of our total loan portfolio. As a result of our growth of this portfolio in the past several years and planned future growth, these loans require more ongoing evaluation and monitoring and we are implementing enhanced risk management policies, procedures and controls. Commercial real estate loans generally involve a greater degree of credit risk than residential mortgage loans because they typically have larger balances and are more affected by adverse conditions in the economy. Because payments on loans secured commercial real estate often depend upon the successful operation and management of the properties and the businesses which operate from within them, repayment of such loans may be affected by factors outside the borrower's control, such as adverse conditions in the real estate market or the economy or changes in government regulation. In recent years, commercial real estate markets have been experiencing substantial growth, and increased competitive pressures have contributed significantly to historically low capitalization rates and rising property values. Commercial real estate prices, according to many U.S. commercial real estate indices, are currently above the 2007 peak levels that contributed to the financial crisis. Accordingly, the federal bank regulatory agencies have expressed concerns about weaknesses in the current commercial real estate market. Our failure to adequately implement enhanced risk management policies, procedures and controls could adversely affect our ability to increase this portfolio going forward and could result in an increased rate of delinquencies in, and increased losses, from this portfolio. At December 31, 2016, nonaccrual commercial real estate loans totaled $28 million, or less than 1% of our total portfolio of commercial real estate loans.

We may be adversely affected by declines in oil prices. Ongoing volatility in the oil and gas markets, including decreased market oil prices, have compressed margins for many U.S.-based oil producers and others in the Oil and Gas industry. As of December 31, 2016, our oil and gas loan exposure was $1 billion of commitments with $668 million outstanding, representing approximately 3% of our loan portfolio. The Oil and Gas portfolio was comprised of approximately 60 credits made to small and mid-sized companies. These borrowers are likely to be adversely affected by a continued severe and prolonged downturn in oil and gas prices. The allowance related to this portfolio was 5.7% at December 31, 2016, compared to 5.6% at December 31, 2015. A significant deterioration in our oil and gas loans could cause a significant increase in nonaccrual loans. An increase in nonaccrual loans could result in a loss of interest income from these loans, one or more additional increases in the provision for loan losses, and an increase in loan charge offs, all of which could have a material adverse effect on our financial condition and results of operations. A prolonged period of low oil prices could also have a negative impact on the U.S. economy

as a whole, and could, in turn, also have a material adverse effect on our business, financial condition and results of operations.

We depend on the accuracy and completeness of information about our customers and counterparties. In deciding whether to extend credit or enter into other transactions, we may rely on information furnished by or on behalf of customers and counterparties, including financial statements, credit reports, and other financial information. We may also rely on representations of those customers, counterparties, or other third parties, such as independent auditors, as to the accuracy and completeness of that information. Reliance on inaccurate or misleading financial statements, credit reports, or other financial information could cause us to enter into unfavorable transactions, which could have a material adverse effect on our financial condition and results of operations.

Lack of system integrity or credit quality related to funds settlement could result in a financial loss. We settle funds on behalf of financial institutions, other businesses and consumers and receive funds from clients, card issuers, payment networks and consumers on a daily basis for a variety of transaction types. Transactions we facilitate include wire transfers, debit card, credit card and electronic bill payment transactions, supporting consumers, financial institutions and other businesses. These payment activities rely upon the technology infrastructure that facilitates the verification of activity with counterparties and the facilitation of the payment. If the continuity of operations or integrity of processing were compromised this could result in a financial loss to us due to a failure in payment facilitation. In addition, we may issue credit to consumers, financial institutions or other businesses as part of the funds settlement. A default on this credit by a counterparty could result in a financial loss to us.

We are subject to environmental liability risk associated with lending activities. A significant portion of our loan portfolio is secured by real property. During the ordinary course of business, we may foreclose on and take title to properties securing certain loans. In doing so, there is a risk that hazardous or toxic substances could be found on these properties. If hazardous or toxic substances are found, we may be liable for remediation costs, as well as for personal injury and property damage. Environmental laws may require us to incur substantial expenses which may materially reduce the affected property's value or limit our ability to use or sell the affected property. In addition, future laws or more stringent interpretations or enforcement policies with respect to existing laws may increase our exposure to environmental liability. Although we have policies and procedures to perform an environmental review before initiating any foreclosure action on real property, these reviews may not be sufficient to detect all potential environmental hazards. The remediation costs and any other financial liabilities associated with an environmental hazard could have a material adverse effect on our financial condition and results of operations.

Liquidity and Interest Rate Risks

Liquidity is essential to our businesses. The Corporation requires liquidity to meet its deposit and debt obligations as they come due. Access to liquidity could be impaired by an inability to access the capital markets or unforeseen outflows of deposits. Risk factors that could impair our ability to access capital markets include a downturn in our Midwest markets, difficult credit markets, credit rating downgrades, or regulatory actions against the Corporation. The Corporation's access to deposits can be impacted by the liquidity needs of our customers as a substantial portion of the Corporation's liabilities are demand while a substantial portion of the Corporation's assets are loans that cannot be sold in the same timeframe. Historically, the Corporation has been able to meet its cash flow needs as necessary. If a sufficiently large number of depositors sought to withdraw their deposits for whatever reason, the Corporation may be unable to obtain the necessary funding at favorable terms.

We are subject to interest rate risk. Our earnings and cash flows are largely dependent upon our net interest income. Interest rates are highly sensitive to many factors that are beyond our control, including general economic conditions and policies of various governmental and regulatory agencies and, in particular, the Federal Reserve. Changes in monetary policy, including changes in interest rates, could influence not only the interest we receive on loans and investments and the amount of interest we pay on deposits and borrowings, but such changes could also affect (i) our ability to originate loans and obtain deposits; (ii) the fair value of our financial assets and liabilities;

and (iii) the average duration of our mortgage portfolio and other interest-earning assets. If the interest rates paid on deposits and other borrowings increase at a faster rate than the interest rates received on loans and other investments, our net interest income, and therefore earnings, could be adversely affected. Earnings could also be adversely affected if the interest rates received on loans and other investments fall more quickly than the interest rates paid on deposits and other borrowings. Our most significant interest rate risk may be further declines in the absolute level of interest rates or the prolonged continuation of the current low rate environment, as this would generally lead to further compression of our net interest margin, reduced net interest income, and devaluation of our deposit base.

Although management believes it has implemented effective asset and liability management strategies, including the potential use of derivatives as hedging instruments, to reduce the potential effects of changes in interest rates on our results of operations, any substantial, unexpected, prolonged change in market interest rates could have a material adverse effect on our financial condition and results of operations. Also, our interest rate risk modeling techniques and assumptions likely may not fully predict or capture the impact of actual interest rate changes on our balance sheet.

The impact of interest rates on our mortgage banking business can have a significant impact on revenues. Changes in interest rates can impact our mortgage-related revenues and net revenues associated with our mortgage activities. A decline in mortgage rates generally increases the demand for mortgage loans as borrowers refinance, but also generally leads to accelerated payoffs. Conversely, in a constant or increasing rate environment, we would expect fewer loans to be refinanced and a decline in payoffs. Although we use models to assess the impact of interest rates on mortgage-related revenues, the estimates of revenues produced by these models are dependent on estimates and assumptions of future loan demand, prepayment speeds and other factors which may differ from actual subsequent experience.

Changes in interest rates could reduce the value of our investment securities holdings. The Corporation maintains an investment portfolio consisting of various high quality liquid fixed-income securities. The total book value of the securities portfolio as of December 31, 2016 was $6.0 billion and the estimated duration of the aggregate portfolio was approximately 4.4 years. The nature of fixed-income securities is such that changes in market interest rates impact the value of these assets. Based on the duration of the Corporation’s investment securities portfolio, a one percent decrease in market rates is projected to increase the market value of the investment securities portfolio by approximately $251 million, while a one percent increase in market rates is projected to decrease the market value of the investment securities portfolio by approximately $266 million.

Changes in interest rates could also reduce the value of our residential mortgage-related securities and mortgage servicing rights, which could negatively affect our earnings. We have a portfolio of mortgage servicing rights. A mortgage servicing right (“MSR”) is the right to service a mortgage loan (i.e., collect principal, interest, escrow amounts, etc.) for a fee. We recognize MSRs when we originate mortgage loans and keep the servicing rights after we sell or securitize the loans or when we purchase the servicing rights to mortgage loans originated by other lenders. We carry MSRs at the lower of amortized cost or estimated fair value. Fair value is the present value of estimated future net servicing income, calculated based on a number of variables, including assumptions about the likelihood of prepayment by borrowers.

When interest rates fall, borrowers are more likely to prepay their mortgage loans by refinancing them at a lower rate. As the likelihood of prepayment increases, the fair value of our residential mortgage-related securities and MSRs can decrease. Each quarter we evaluate our residential mortgage-related securities and MSRs for impairment. If temporary impairment exists, we establish a valuation allowance for the MSRs through a charge to earnings for the amount the carrying amount exceeds fair value. We also evaluate our MSRs for other-than-temporary impairment. If we determine that other-than-temporary impairment exists, we will recognize a direct write-down of the carrying value of the MSRs.

We rely on dividends from our subsidiaries for most of our revenue. The Parent Company is a separate and distinct legal entity from its banking and other subsidiaries. A substantial portion of the Parent Company's revenue comes from dividends from its subsidiaries. These dividends are the principal source of funds to pay dividends on the Parent Company's common and preferred stock, and to pay interest and principal on the Parent Company's debt. Various federal and / or applicable state laws and regulations limit the amount of dividends that our national bank subsidiary and certain nonbank subsidiaries may pay to us. Also, our right to participate in a distribution of assets upon a subsidiary's liquidation or reorganization is subject to the prior claims of the subsidiary's creditors. In the event our national bank subsidiary is unable to pay dividends to us, we may not be able to service debt, pay obligations, or pay dividends on our common and preferred stock. The inability to receive dividends from our national bank subsidiary could have a material adverse effect on our business, financial condition, and results of operations.

Operational Risks

We face significant operational risks due to the high volume and the high dollar value nature of transactions we process. We operate in many different businesses in diverse markets and rely on the ability of our employees and systems to process transactions. Operational risk is the risk of loss resulting from our operations, including but not limited to, the risk of fraud by employees or persons outside our company, the execution of unauthorized transactions, errors relating to transaction processing and technology, breaches of our internal control systems or failures of those of our suppliers or counterparties, compliance failures, cyber-attacks, technology failures, or unforeseen problems encountered while implementing new computer systems or upgrades to existing systems, business continuation and disaster recovery issues, and other external events. Insurance coverage may not be available for such losses, or where available, such losses may exceed insurance limits. This risk of loss also includes the potential legal actions that could arise as a result of an operational deficiency or as a result of noncompliance with applicable regulatory standards, adverse business decisions or their implementation, and customer attrition due to potential negative publicity. The occurrence of any of these events could cause us to suffer financial loss, face regulatory action and suffer damage to our reputation.

Unauthorized disclosure of sensitive or confidential client or customer information, whether through a cyber-attack, other breach of our computer systems or otherwise, could severely harm our business. In the normal course of our business, we collect, process and retain sensitive and confidential client and customer information on our behalf and on behalf of other third parties. Despite the security measures we have in place, our facilities and systems may be vulnerable to cyber-attacks, security breaches, acts of vandalism, computer viruses, malware, misplaced or lost data, programming and / or human errors, or other similar events.

Information security risks for financial institutions like us have increased recently in part because of new technologies, the increased use of the internet and telecommunications technologies (including mobile devices) to conduct financial and other business transactions, political activism, and the increased sophistication and activities of organized crime, perpetrators of fraud, hackers, terrorists and others. In addition to cyber-attacks or other security breaches involving the theft of sensitive and confidential information, hackers have engaged in attacks against large financial institutions, particularly denial of service attacks, designed to disrupt key business services, such as customer-facing web sites. We are not able to anticipate or implement effective preventive measures against all possible security breaches of these types. Although we employ detection and response mechanisms designed to contain and mitigate security incidents, early detection may be thwarted by persistent sophisticated attacks and malware designed to avoid detection.

We also face risks related to cyber-attacks and other security breaches in connection with card transactions that typically involve the transmission of sensitive information regarding our customers through various third parties. Some of these parties have in the past been the target of security breaches and cyber-attacks, and because the transactions involve third parties and environments that we do not control or secure, future security breaches or cyber-attacks affecting any of these third parties could impact us through no fault of our own, and in some cases we may have exposure and suffer losses for breaches or attacks relating to them. We also rely on numerous other third party service providers to conduct other aspects of our business operations and face similar risks relating to

them. While we conduct security assessments on our higher risk third parties, we cannot be sure that their information security protocols are sufficient to withstand a cyber-attack or other security breach.

Any cyber-attack or other security breach involving the misappropriation, loss or other unauthorized disclosure of confidential customer information could severely damage our reputation, erode confidence in the security of our systems, products and services, expose us to the risk of litigation and liability, disrupt our operations and have a material adverse effect on our business.

Our information systems may experience an interruption or breach in security. We rely heavily on communications and information systems to conduct our business. Any failure, interruption, or breach in security or operational integrity of these systems could result in failures or disruptions in our customer relationship management, general ledger, deposit, loan, and other systems. While we have policies and procedures designed to prevent or limit the effect of the failure, interruption, or security breach of our information systems, we cannot completely ensure that any such failures, interruptions, or security breaches will not occur or, if they do occur, that they will be adequately addressed. The occurrence of any failures, interruptions, or security breaches of our information systems could damage our reputation, result in a loss of customer business, subject us to additional regulatory scrutiny, or expose us to civil litigation and possible financial liability, any of which could have a material adverse effect on our financial condition and results of operations.

We are dependent upon third parties for certain information system, data management and processing services and to provide key components of our business infrastructure. We outsource certain information system and data management and processing functions to third party providers, including, among others, Fiserv, Inc. and its affiliates. These third party service providers are sources of operational and informational security risk to us, including risks associated with operational errors, information system interruptions or breaches, and unauthorized disclosures of sensitive or confidential client or customer information. If third party service providers encounter any of these issues, or if we have difficulty communicating with them, we could be exposed to disruption of operations, loss of service or connectivity to customers, reputational damage, and litigation risk that could have a material adverse effect on our results of operations or our business.

Third party vendors provide key components of our business infrastructure, such as internet connections, network access and core application processing. While we have selected these third party vendors carefully, we do not control their actions. Any problems caused by these third parties, including as a result of their not providing us their services for any reason or their performing their services poorly, could adversely affect our ability to deliver products and services to our customers and otherwise to conduct our business. Replacing these third party vendors could also entail significant delay and expense.

The potential for business interruption exists throughout our organization. Integral to our performance is the continued efficacy of our technical systems, operational infrastructure, relationships with third parties and the vast array of associates and key executives in our day-to-day and ongoing operations. Failure by any or all of these resources subjects us to risks that may vary in size, scale and scope. This includes, but is not limited to, operational or technical failures, ineffectiveness or exposure due to interruption in third party support, as well as the loss of key individuals or failure on the part of key individuals to perform properly. Although management has established policies and procedures to address such failures, the occurrence of any such event could have a material adverse effect on our business, which, in turn, could have a material adverse effect on our financial condition and results of operations.

Changes in our accounting policies or in accounting standards could materially affect how we report our financial results. Our accounting policies are fundamental to understanding our financial results and condition. Some of these policies require the use of estimates and assumptions that may affect the value of our assets or liabilities and financial results. Some of our accounting policies are critical because they require management to make difficult, subjective and complex judgments about matters that are inherently uncertain and because it is likely that materially different amounts would be reported under different conditions or using different assumptions. If such estimates or assumptions underlying our financial statements are incorrect, we may experience material losses.

From time to time the FASB and the SEC change the financial accounting and reporting standards or the interpretation of those standards that govern the preparation of our external financial statements. These changes are beyond our control, can be hard to predict and could materially impact how we report our results of operations and financial condition. We could be required to apply a new or revised standard retroactively, resulting in our restating prior period financial statements in material amounts.

Our internal controls may be ineffective. Management regularly reviews and updates our internal controls, disclosure controls and procedures, and corporate governance policies and procedures. Any system of controls, however well designed and operated, is based in part on certain assumptions and can provide only reasonable, not absolute, assurances that the objectives of the controls are met. Any failure or circumvention of our controls and procedures or failure to comply with regulations related to controls and procedures could have a material adverse effect on our business, results of operations, and financial condition.

Impairment of investment securities, goodwill, other intangible assets, or deferred tax assets could require charges to earnings, which could result in a negative impact on our results of operations. In assessing whether the impairment of investment securities is other-than-temporary, management considers the length of time and extent to which the fair value has been less than cost, the financial condition and near-term prospects of the issuer, and the intent and ability to retain our investment in the security for a period of time sufficient to allow for any anticipated recovery in fair value in the near term.

Under current accounting standards, goodwill is not amortized but, instead, is subject to impairment tests on at least an annual basis or more frequently if an event occurs or circumstances change that reduce the fair value of a reporting unit below its carrying amount. A decline in our stock price or occurrence of a triggering event following any of our quarterly earnings releases and prior to the filing of the periodic report for that period could, under certain circumstances, cause us to perform a goodwill impairment test and result in an impairment charge being recorded for that period which was not reflected in such earnings release. During 2016, the annual impairment test conducted in May indicated that the estimated fair value of all of the Corporation's reporting units exceeded the carrying value. In the event that we conclude that all or a portion of our goodwill may be impaired, a non-cash charge for the amount of such impairment would be recorded to earnings. Such a charge would have no impact on tangible capital. At December 31, 2016, we had goodwill of $972 million, representing approximately 31% of stockholders' equity.

In assessing the realizability of deferred tax assets, management considers whether it is more likely than not that some portion or all of the deferred tax assets will not be realized. Assessing the need for, or the sufficiency of, a valuation allowance requires management to evaluate all available evidence, both negative and positive, including the recent trend of quarterly earnings. Positive evidence necessary to overcome the negative evidence includes whether future taxable income in sufficient amounts and character within the carryback and carryforward periods is available under the tax law, including the use of tax planning strategies. When negative evidence (e.g., cumulative losses in recent years, history of operating loss or tax credit carryforwards expiring unused) exists, more positive evidence than negative evidence will be necessary. The Corporation has concluded that based on the level of positive evidence, it is more likely than not that the deferred tax asset will be realized. At December 31, 2016, net deferred tax assets were approximately $52 million.

The impact of each of these impairment matters could have a material adverse effect on our business, results of operations, and financial condition.

We may not be able to attract and retain skilled people. Our success depends, in large part, on our ability to attract and retain skilled people. Competition for the best people in most activities engaged in by us can be intense, and we may not be able to hire sufficiently skilled people or to retain them. The unexpected loss of services of one or more of our key personnel could have a material adverse impact on our business because of their skills, knowledge of our markets, years of industry experience, and the difficulty of promptly finding qualified replacement personnel.

Loss of key employees may disrupt relationships with certain customers. Our business is primarily relationship-driven in that many of our key employees have extensive customer relationships. Loss of a key employee with

such customer relationships may lead to the loss of business if the customers were to follow that employee to a competitor. While we believe our relationship with our key personnel is good, we cannot guarantee that all of our key personnel will remain with our organization. Loss of such key personnel, should they enter into an employment relationship with one of our competitors, could result in the loss of some of our customers.

Revenues from our investment management and asset servicing businesses are significant to our earnings. Generating returns that satisfy clients in a variety of asset classes is important to maintaining existing business and attracting new business. Administering or managing assets in accordance with the terms of governing documents and applicable laws is also important to client satisfaction. Failure in either of the foregoing areas can expose us to liability, and result in a decrease in our revenues and earnings.

Severe weather, natural disasters, acts of war or terrorism, and other external events could significantly impact our business. Severe weather, natural disasters, acts of war or terrorism, and other adverse external events could have a significant impact on our ability to conduct business. Such events could affect the stability of our deposit base, impair the ability of borrowers to repay outstanding loans, impair the value of collateral securing loans, cause significant property damage, result in loss of revenue and / or cause us to incur additional expenses. Although management has established disaster recovery policies and procedures, the occurrence of any such event could have a material adverse effect on our business, which, in turn, could have a material adverse effect on our financial condition and results of operations.

Strategic and External Risks

Our earnings are significantly affected by the fiscal and monetary policies of the federal government and its agencies. The policies of the Federal Reserve impact us significantly. The Federal Reserve regulates the supply of money and credit in the United States. Its policies directly and indirectly influence the rate of interest earned on loans and paid on borrowings and interest-bearing deposits and can also affect the value of financial instruments we hold. Those policies determine to a significant extent our cost of funds for lending and investing. Changes in those policies are beyond our control and are difficult to predict. Federal Reserve policies can also affect our borrowers, potentially increasing the risk that they may fail to repay their loans. For example, a tightening of the money supply by the Federal Reserve could reduce the demand for a borrower’s products and services. This could adversely affect the borrower’s earnings and ability to repay its loan, which could have a material adverse effect on our financial condition and results of operations.

Our financial condition and results of operations could be negatively affected if we fail to grow or fail to manage our growth effectively. Our business strategy includes significant growth plans. We intend to continue pursuing a profitable growth strategy. Our prospects must be considered in light of the risks, expenses and difficulties frequently encountered by companies in significant growth stages of development. We cannot assure you that we will be able to expand our market presence in our existing markets or successfully enter new markets or that any such expansion will not adversely affect our results of operations. Failure to manage our growth effectively could have a material adverse effect on our business, future prospects, financial condition or results of operations and could adversely affect our ability to successfully implement our business strategy. Also, if we grow more slowly than anticipated, our operating results could be materially adversely affected.

We operate in a highly competitive industry and market area. We face substantial competition in all areas of our operations from a variety of different competitors, both within and beyond our principal markets, many of which are larger and may have more financial resources. Such competitors primarily include national, regional, and internet banks within the various markets in which we operate. We also face competition from many other types of financial institutions, including, without limitation, savings and loans, credit unions, finance companies, brokerage firms, insurance companies, and other financial intermediaries. The financial services industry could become even more competitive as a result of legislative and regulatory changes and continued consolidation. In December 2016, the OCC announced that it would begin considering applications from financial technology companies to become special purpose national banks, and requested comments about how it can foster responsible innovation in the chartering process while continuing to provide robust oversight.

In addition, as customer preferences and expectations continue to evolve, technology has lowered barriers to entry and made it possible for nonbanks to offer products and services traditionally provided by banks, such as automatic transfer and automatic payment systems. Many of our competitors have fewer regulatory constraints and may have lower cost structures. Additionally, due to their size, many competitors may be able to achieve economies of scale and, as a result, may offer a broader range of products and services as well as better pricing for those products and services than we can.

Our ability to compete successfully depends on a number of factors, including, among other things:

- the ability to develop, maintain, and build upon long-term customer relationships based on top quality service, high ethical standards, and safe, sound assets;
- the ability to expand our market position;
- the scope, relevance, and pricing of products and services offered to meet customer needs and demands;
- the rate at which we introduce new products and services relative to our competitors;
- customer satisfaction with our level of service; and
- industry and general economic trends.

Failure to perform in any of these areas could significantly weaken our competitive position, which could adversely affect our growth and profitability, which, in turn, could have a material adverse effect on our financial condition and results of operations.

Our profitability depends significantly on economic conditions in the states within which we do business. Our success depends on the general economic conditions of the specific local markets in which we operate, particularly Wisconsin, Illinois and Minnesota. Local economic conditions have a significant impact on the demand for our products and services, as well as the ability of our customers to repay loans, on the value of the collateral securing loans, and the stability of our deposit funding sources. A significant decline in general local economic conditions caused by inflation, recession, unemployment, changes in securities markets, changes in housing market prices, or other factors could have a material adverse effect on our financial condition and results of operations.

The earnings of financial services companies are significantly affected by general business and economic conditions. Our operations and profitability are impacted by general business and economic conditions in the United States and abroad. These conditions include short-term and long-term interest rates, inflation, money supply, political issues, legislative and regulatory changes, fluctuations in both debt and equity capital markets, broad trends in industry and finance, the strength of the United States economy, and uncertainty in financial markets globally, all of which are beyond our control. A deterioration in economic conditions could result in an increase in loan delinquencies and nonperforming assets, decreases in loan collateral values, and a decrease in demand for our products and services, among other things, any of which could have a material adverse impact on our financial condition and results of operations.

New lines of business or new products and services may subject us to additional risk. From time to time, we may implement new lines of business or offer new products and services within existing lines of business. There are substantial risks and uncertainties associated with these efforts, particularly in instances where the markets are not fully developed. In developing and marketing new lines of business and / or new products and services, we may invest significant time and resources. Initial timetables for the introduction and development of new lines of business and / or new products or services may not be achieved and price and profitability targets may not prove feasible. External factors, such as competitive alternatives and shifting market preferences, may also impact the successful implementation of a new line of business and / or a new product or service. Furthermore, strategic planning remains important as we adopt innovative products, services, and processes in response to the evolving demands for financial services and the entrance of new competitors, such as out-of-market banks and financial technology firms. Any new line of business and / or new product or service could have a significant impact on the effectiveness of our system of internal controls, so we must responsibly innovate in a manner that is consistent with sound risk management and is aligned with the Bank's overall business strategies. Failure to successfully manage these risks in the development and implementation of new lines of business and / or new products or services could have a material adverse effect on our business, results of operations and financial condition.

Failure to keep pace with technological change could adversely affect our business. The financial services industry is continually undergoing rapid technological change with frequent introductions of new technology-driven products and services. The effective use of technology increases efficiency and enables financial institutions to better serve customers and to reduce costs. Our future success depends, in part, upon our ability to address the needs of our customers by using technology to provide products and services that will satisfy customer demands, as well as to create additional efficiencies in our operations. Many of our competitors have substantially greater resources to invest in technological improvements. We may not be able to effectively implement new technology-driven products and services or be successful in marketing these products and services to our customers. Failure to successfully keep pace with technological change affecting the financial services industry could have a material adverse impact on our business and, in turn, our financial condition and results of operations.

We may be adversely affected by risks associated with potential and completed acquisitions. As part of our growth strategy, we regularly evaluate merger and acquisition opportunities and conduct due diligence activities related to possible transactions with other financial institutions and financial services companies. As a result, negotiations may take place and future mergers or acquisitions involving cash, debt, or equity securities may occur at any time. We seek merger or acquisition partners that are culturally similar, have experienced management, and possess either significant market presence or have potential for improved profitability through financial management, economies of scale, or expanded services.

Acquiring other banks, businesses, or branches involves potential adverse impact to our financial results and various other risks commonly associated with acquisitions, including, among other things:

- incurring time and expense associated with identifying and evaluating potential acquisitions and negotiating potential transactions, and with integrating acquired businesses, resulting in the diversion of resources from the operation of our existing businesses;
- difficulty in estimating the value of target companies or assets and in evaluating credit, operations, management, and market risks associated with those companies or assets;
- payment of a premium over book and market values that may dilute our tangible book value and earnings per share in the short and long term;
- potential exposure to unknown or contingent liabilities of the target company, including, without limitation, liabilities for regulatory and compliance issues;
- exposure to potential asset quality issues of the target company;
- there may be volatility in reported income as goodwill impairment losses could occur irregularly and in varying amounts;
- difficulties, inefficiencies or cost overruns associated with the integration of the operations, personnel, technologies, services, and products of acquired companies with ours;
- inability to realize the expected revenue increases, cost savings, increases in geographic or product presence, and / or other projected benefits;
- potential disruption to our business;
- the possible loss of key employees and customers of the target company; and
- potential changes in banking or tax laws or regulations that may affect the target company.

Acquisitions also involve operational risks and uncertainties, and acquired companies may have unknown or contingent liabilities, exposure to unexpected asset quality problems that require write-downs or write-offs (as well as restructuring and impairment or other charges), difficulty retaining key employees and customers and other issues that could negatively affect our business. We may not be able to realize any projected cost savings, synergies or other benefits associated with any such acquisition we complete. Acquisitions typically involve the payment of a premium over book and market values and, therefore, some dilution of our tangible book value and net income per common share may occur in connection with any future transaction. Failure to successfully integrate the entities we acquire into our existing operations could increase our operating costs significantly and have a material adverse effect on our business, financial condition, and results of operations.

In addition, we face significant competition from other financial services institutions, some of which may have greater financial resources than we do, when considering acquisition opportunities. Accordingly, attractive opportunities may not be available to us and there can be no assurance that we will be successful in identifying or completing future acquisitions.

Acquisitions may be delayed, impeded, or prohibited due to regulatory issues. Acquisitions by the Corporation, particularly those of financial institutions, are subject to approval by a variety of federal and state regulatory agencies (collectively, "regulatory approvals"). The process for obtaining these required regulatory approvals has become substantially more difficult in recent years. Regulatory approvals could be delayed, impeded, restrictively conditioned or denied due to existing or new regulatory issues the Corporation has, or may have, with regulatory agencies, including, without limitation, issues related to BSA compliance, Community Reinvestment Act (CRA) issues, fair lending laws, fair housing laws, consumer protection laws, unfair, deceptive, or abusive acts or practices regulations, and other similar laws and regulations. We may fail to pursue, evaluate or complete strategic and competitively significant acquisition opportunities as a result of our inability, or perceived or anticipated inability, to obtain regulatory approvals in a timely manner, under reasonable conditions or at all. Difficulties associated with potential acquisitions that may result from these factors could have a material adverse impact on our business, and, in turn, our financial condition and results of operations.

On August 31, 2016, the Bank received a CRA rating from the OCC of "Needs to Improve" for the period 2006-2010. The "Needs to Improve" rating restricts certain of our activities, including certain mergers and acquisitions and the establishment or relocation of Bank branches and certain other facilities.

Consumers may decide not to use banks to complete their financial transactions. Technology and other changes are allowing parties to complete financial transactions through alternative methods that historically have involved banks. For example, consumers can now maintain funds that would have historically been held as bank deposits in brokerage accounts, mutual funds or general-purpose reloadable prepaid cards. Consumers can also complete transactions, such as paying bills and / or transferring funds directly without the assistance of banks.

The process of eliminating banks as intermediaries, known as "disintermediation," could result in the loss of fee income, as well as the loss of customer deposits and the related income generated from those deposits. The loss of these revenue streams and the lower cost of deposits as a source of funds could have a material adverse effect on our financial condition and results of operations.

Legal, Regulatory, Compliance and Reputational Risks

We are subject to increasingly extensive government regulation and supervision. We are subject to increasingly extensive federal and applicable state regulation and supervision, primarily through Associated Bank and certain nonbank subsidiaries. Banking regulations are primarily intended to protect depositors' funds, federal deposit insurance funds, and the banking system as a whole, not shareholders. These regulations affect our lending practices, capital structure, investment practices, dividend policy, and growth, among other things. Congress and federal regulatory agencies continually review banking laws, regulations, and policies for possible changes. Changes to statutes, regulations, or regulatory policies, including changes in interpretation or implementation of statutes, regulations, or policies, could affect us in substantial and unpredictable ways. Such changes could subject us to additional costs, limit the types of financial services and products we may offer, and / or increase the ability of nonbanks to offer competing financial services and products, among other things. Failure to comply with laws, regulations, or policies could result in sanctions by regulatory agencies, civil money penalties, and / or reputation damage, which could have a material adverse effect on our business, financial condition, and results of operations. While we have policies and procedures designed to prevent these types of violations, there can be no assurance that such violations will not occur.

In addition, in September 2016, the CFPB and OCC entered into a consent order with a large national bank alleging widespread improper sales practices, which prompted the federal bank regulatory agencies to conduct a horizontal review of sales practices throughout the banking industry. The elevated attention likely will result in continued

additional regulatory scrutiny and regulation of incentive arrangements, which could adversely impact the delivery of services and increase compliance costs.

The Consumer Financial Protection Bureau has reshaped the consumer financial laws through rulemaking and enforcement of the prohibitions against unfair, deceptive and abusive business practices. Compliance with any such change may impact the business operations of depository institutions offering consumer financial products or services, including the Bank. The CFPB has broad rulemaking authority to administer and carry out the provisions of the Dodd-Frank Act with respect to financial institutions that offer covered financial products and services to consumers. As an independent bureau within the FRB, the CFPB may impose requirements more severe than the previous bank regulatory agencies. The CFPB has also been directed to write rules identifying practices or acts that are unfair, deceptive or abusive in connection with any transaction with a consumer for a consumer financial product or service, or the offering of a consumer financial product or service. The CFPB has initiated enforcement actions against a variety of bank and non-bank market participants with respect to a number of consumer financial products and services that has resulted in those participants expending significant time, money and resources to adjust to the initiatives being pursued by the CFPB. These enforcement actions may serve as precedent for how the CFPB interprets and enforces consumer protection laws, including practices or acts that are deemed to be unfair, deceptive or abusive, with respect to all supervised institutions, which may result in the imposition of higher standards of compliance with such laws. The concept of what may be considered to be an "abusive" practice is relatively new under the law. Moreover, the Bank is subject to supervision and examination by the CFPB for compliance with the CFPB's regulations and policies. The costs and limitations related to this additional regulatory reporting regimen have yet to be fully determined, although they may be material, and the limitations and restrictions that will be placed upon the Bank with respect to its consumer product offerings and services may produce significant, material effects on the Bank's (and the Corporation's) profitability.

We continue to operate under and meet the commitments described in the U.S. Department of Housing and Urban Development Conciliation Agreement, which remains effective until May 22, 2018. Under the Conciliation Agreement, the Bank made commitments to various requirements, including those related to: (i) general non-discrimination; (ii) training; (iii) future branch locations and loan production offices; and (iv) community investment. Should the Bank breach the terms of the agreement and fail to correct such breaches in a reasonable time, the matter may be referred to the U.S. Attorney General to commence a civil action under the Fair Housing Act, which would impose increased regulatory costs on the Bank.

The CFPB may finalize its proposed arbitration rule, which would likely increase our compliance expenses. In May 2016, the CFPB issued a proposed rule that would prohibit banks from using a pre-dispute arbitration agreement to block consumer class actions in court and would require banks to insert language into their arbitration agreements reflecting this limitation. The proposed rule would also require banks that use pre-dispute arbitration agreements to submit certain records relating to arbitral proceedings to the CFPB. The proposed rule would generally apply to contracts entered into more than 180 days after the effective date of any final rule. If adopted as proposed, this rule could result in increased litigation and defense costs as plaintiff's class action firms would feel encouraged to seek clients as class representatives for alleged consumer harm that otherwise would have been the subject to the existing arbitration clauses in consumer contracts. This proposed rule, if adopted, and other CFPB regulations likely will continue to increase the Bank's compliance expenses.

The Bank is periodically examined for mortgage-related issues, including mortgage loan and default services, fair lending, and mortgage banking. Federal and state banking regulators closely examine the mortgage and mortgage servicing activities of depository financial institutions. Should any of these regulators have serious concerns with respect to our mortgage or mortgage servicing activities in this regard, the regulators' response to such concerns could result in material adverse effects on our growth strategy and profitability.

We may experience unanticipated losses as a result of residential mortgage loan repurchase or reimbursement obligations under agreements with secondary market purchasers. We may be required to repurchase residential mortgage loans, or to reimburse the purchaser for losses with respect to residential mortgage loans, which have been sold to secondary market purchasers in the event there are breaches of certain representations and warranties

contained within the sales agreements, such as representations and warranties related to credit information, loan documentation, collateral and insurability. Consequently, we are exposed to credit risk, and potentially funding risk, associated with sold loans. As a result we have established reserves in our consolidated financial statements for potential losses related to the residential mortgage loans we have sold. The adequacy of the reserves and the ultimate amount of losses incurred will depend on, among other things, the actual future mortgage loan performance, the actual level of future repurchase and reimbursement requests, the actual success rate of claimants, actual recoveries on the collateral and macroeconomic conditions. Due to uncertainties relating to these factors, there can be no assurance that the reserves we establish will be adequate or that the total amount of losses incurred will not have a material adverse effect on our financial condition or results of operations.

We are subject to examinations and challenges by tax authorities. We are subject to federal and applicable state income tax regulations. Income tax regulations are often complex and require interpretation. Changes in income tax regulations could negatively impact our results of operations. In the normal course of business, we are routinely subject to examinations and challenges from federal and applicable state tax authorities regarding the amount of taxes due in connection with investments we have made and the businesses in which we have engaged. Recently, federal and state taxing authorities have become increasingly aggressive in challenging tax positions taken by financial institutions. These tax positions may relate to tax compliance, sales and use, franchise, gross receipts, payroll, property and income tax issues, including tax base, apportionment and tax credit planning. The challenges made by tax authorities may result in adjustments to the timing or amount of taxable income or deductions or the allocation of income among tax jurisdictions. If any such challenges are made and are not resolved in our favor, they could have a material adverse effect on our financial condition and results of operations.

We are subject to claims and litigation pertaining to fiduciary responsibility. From time to time, customers make claims and take legal action pertaining to the performance of our fiduciary responsibilities. Whether customer claims and legal action related to the performance of our fiduciary responsibilities are founded or unfounded, if such claims and legal actions are not resolved in a manner favorable to us, they may result in significant financial liability and / or adversely affect the market perception of us and our products and services, as well as impact customer demand for those products and services. Any financial liability or reputation damage could have a material adverse effect on our business, which, in turn, could have a material adverse effect on our financial condition and results of operations.

We are a defendant in a variety of litigation and other actions, which may have a material adverse effect on our financial condition and results of operation. We may be involved from time to time in a variety of litigation arising out of our business. Our insurance may not cover all claims that may be asserted against us, and any claims asserted against us, regardless of merit or eventual outcome, may harm our reputation. Should the ultimate judgments or settlements in any litigation exceed our insurance coverage, they could have a material adverse effect on our financial condition and results of operation for any period. In addition, we may not be able to obtain appropriate types or levels of insurance in the future, nor may we be able to obtain adequate replacement policies with acceptable terms, if at all.

The financial services industry, as well as the broader economy, may be subject to new legislation, regulation, and government policy. At this time, it is difficult to predict the legislative and regulatory changes that will result from the combination of a new President of the United States and the first year since 2010 in which both Houses of Congress and the White House have majority memberships from the same political party. In recent years, however, both the new President and senior members of the House of Representatives have advocated for significant reduction of financial services regulation, to include amendments to the Dodd-Frank Act and structural changes to the CFPB. The new Administration and Congress also may cause broader economic changes due to changes in governing ideology and governing style. New appointments to the Board of Governors of the Federal Reserve could affect monetary policy and interest rates, and changes in fiscal policy could affect broader patterns of trade and economic growth. Future legislation, regulation, and government policy could affect the banking industry as a whole, including our business and results of operations, in ways that are difficult to predict. In addition, our results of operations also could be adversely affected by changes in the way in which existing statutes and regulations are interpreted or applied by courts and government agencies.

Negative publicity could damage our reputation. Reputation risk, or the risk to our earnings and capital from negative public opinion, is inherent in our business. Negative public opinion could adversely affect our ability to keep and attract customers and expose us to adverse legal and regulatory consequences. Negative public opinion could result from our actual or alleged conduct in any number of activities, including lending or foreclosure practices, corporate governance, regulatory compliance, mergers and acquisitions, and disclosure, sharing or inadequate protection of customer information, and from actions taken by government regulators and community organizations in response to that conduct. Because we conduct most of our business under the "Associated Bank" brand, negative public opinion about one business could affect our other businesses.

Ethics or conflict of interest issues could damage our reputation. We have established a Code of Business Conduct and Ethics and related policies and procedures to address the ethical conduct of business and to avoid potential conflicts of interest. Any system of controls, however well designed and operated, is based, in part, on certain assumptions and can provide only reasonable, not absolute, assurances that the objectives of the system are met. Any failure or circumvention of our related controls and procedures or failure to comply with the established Code of Business Conduct and Ethics and Related Party Transaction Policies and Procedures could have a material adverse effect on our reputation, business, results of operations, and / or financial condition.

Risks Related to an Investment in Our Securities

The price of our securities can be volatile. Price volatility may make it more difficult for you to sell your securities when you want and at prices you find attractive. Our securities prices can fluctuate widely in response to a variety of factors including, among other things:

- actual or anticipated variations in quarterly results of operations or financial condition;
- operating results and stock price performance of other companies that investors deem comparable to us;
- news reports relating to trends, concerns, and other issues in the financial services industry;
- perceptions in the marketplace regarding us and / or our competitors;
- new technology used or services offered by competitors;
- significant acquisitions or business combinations, strategic partnerships, joint ventures, or capital commitments by or involving us or our competitors;
- failure to integrate acquisitions or realize anticipated benefits from acquisitions;
- changes in government regulations;
- geopolitical conditions, such as acts or threats of terrorism or military conflicts; and
- recommendations by securities analysts.

General market fluctuations, industry factors, and general economic and political conditions and events, such as economic slowdowns or recessions, interest rate changes, or credit loss trends, could also cause our securities prices to decrease regardless of our operating results.

There may be future sales or other dilution of our equity, which may adversely affect the market price of our securities. We are not restricted from issuing additional securities, including common stock and securities that are convertible into or exchangeable for, or that represent the right to receive, common stock. The issuance of additional shares of common stock or the issuance of convertible securities would dilute the ownership interest of our existing common shareholders. The market price of our common stock could decline as a result of an equity offering, as well as other sales of a large block of shares of our common stock or similar securities in the market after an equity offering, or the perception that such sales could occur. Both we and our regulators perform a variety of analyses of our assets, including the preparation of stress case scenarios, and as a result of those assessments we could determine, or our regulators could require us, to raise additional capital.

In addition, the exercise of the common stock warrants originally issued to the U.S. Department of the Treasury (the "UST") under TARP, which have been sold by the UST in a public offering, would dilute the ownership interest of our existing shareholders. These common stock warrants are exercisable at any time, in whole or in part, on or before November 21, 2018, at an exercise price of $19.77 per share (subject to certain anti-dilution adjustments).

See Note 10 Stockholders' Equity of the notes to consolidated financial statements in Part II, Item 8, “Financial Statements and Supplementary Data,” for additional information on these common stock warrants.

We may reduce or eliminate dividends on our common stock. Although we have historically paid a quarterly cash dividend to the holders of our common stock, holders of our common stock are not entitled to receive dividends. Downturns in the domestic and global economies could cause our board of directors to consider, among other things, the elimination of dividends paid on our common stock. This could adversely affect the market price of our common stock. Furthermore, as a bank holding company, our ability to pay dividends is subject to the guidelines of the Federal Reserve regarding capital adequacy and dividends. Dividends also may be limited as a result of safety and soundness considerations.

Common stock is equity and is subordinate to our existing and future indebtedness and preferred stock and effectively subordinated to all the indebtedness and other non-common equity claims against our subsidiaries. Shares of the common stock are equity interests in us and do not constitute indebtedness. As such, shares of the common stock will rank junior to all of our indebtedness and to other non-equity claims against us and our assets available to satisfy claims against us, including our liquidation. Additionally, holders of our common stock are subject to prior dividend and liquidation rights of holders of our outstanding preferred stock. Our board of directors is authorized to issue additional classes or series of preferred stock without any action on the part of the holders of our common stock, and we are permitted to incur additional debt. Upon liquidation, lenders and holders of our debt securities and preferred stock would receive distributions of our available assets prior to holders of our common stock. Furthermore, our right to participate in a distribution of assets upon any of our subsidiaries' liquidation or reorganization is subject to the prior claims of that subsidiary's creditors, including holders of any preferred stock of that subsidiary.

Our articles of incorporation, bylaws, and certain banking laws may have an anti-takeover effect. Provisions of our articles of incorporation and bylaws, and federal banking laws, including regulatory approval requirements, could make it more difficult for a third party to acquire us, even if doing so would be perceived to be beneficial to our shareholders. The combination of these provisions may prohibit a non-negotiated merger or other business combination, which, in turn, could adversely affect the market price of our common stock.

An investment in our common stock is not an insured deposit. Our common stock is not a bank deposit and, therefore, is not insured against loss by the FDIC, any other deposit insurance fund, or by any other public or private entity. An investment in our common stock is inherently risky for the reasons described in this “Risk Factors” section and elsewhere in this report and is subject to the same market forces that affect the price of common stock in any company. As a result, if you acquire our common stock, you may lose some or all of your investment.

An entity holding as little as a 5% interest in our outstanding common stock could, under certain circumstances, be subject to regulation as a “bank holding company.” An entity (including a “group” composed of natural persons) owning or controlling with the power to vote 25% or more of our outstanding common stock, or 5% or more if such holder otherwise exercises a “controlling influence” over us, may be subject to regulation as a “bank holding company” in accordance with the BHC Act. In addition, (1) any bank holding company or foreign bank with a U.S. presence may be required to obtain the approval of the Federal Reserve under the BHC Act to acquire or retain 5% or more of our outstanding common stock, and (2) any person not otherwise defined as a company by the BHC Act and its implementing regulations may be required to obtain the approval of the Federal Reserve under the Change in Bank Control Act to acquire or retain 10% or more of our outstanding common stock. Becoming a bank holding company imposes certain statutory and regulatory restrictions and obligations, such as providing managerial and financial strength for its bank subsidiaries. Regulation as a bank holding company could require the holder to divest all or a portion of the holder's investment in our common stock or such nonbanking investments that may be deemed impermissible or incompatible with bank holding company status, such as a material investment in a company unrelated to banking.

Our ability to originate residential mortgage loans for portfolio has been adversely affected by the increased competition resulting from the unprecedented involvement of the U.S. government and government-sponsored enterprises ("GSEs") in the residential mortgage market. Over the past several years, we have faced increased competition for residential mortgage loans due to the unprecedented involvement of the GSEs in the mortgage market as a result of the economic crisis, which has caused the interest rate for 30 year fixed rate mortgage loans that conform to GSE guidelines to remain artificially low. In addition, the U.S. Congress has expanded the conforming loan limits in many of our operating markets, allowing larger balance loans to continue to be acquired by the GSEs. However, the new President of the United States and proposed key cabinet nominees have indicated that reforming the GSE system is a priority item on the administration's regulatory agenda. It is unknown at this time what reforms, if any, will be made, the extent of the future involvement in the residential mortgage market and the impact of any reforms on that market and the United States economy as a whole.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

The Corporation operated approximately 260 facilities, including 217 banking branches at December 31, 2016. Our corporate headquarters is located at 433 Main Street in Green Bay, Wisconsin and is approximately 118,000 square feet. The Corporation owns two dedicated operations centers, located in Green Bay and Stevens Point, Wisconsin with approximately 91,000 and 96,000 square feet, respectively. At December 31, 2016, we owned 81% of our total property portfolio, based on rentable square feet.

In 2016, Associated Bank purchased a 374,000 square foot, 28 story office tower, located at 111 E. Kilbourn Avenue in Milwaukee, Wisconsin (the "Milwaukee Center"). Employees within the Milwaukee market will transition from leased office locations into the owned Milwaukee Center starting in 2017, continuing with subsequent office lease expirations in the market. Associated Bank also purchased a 95,000 square foot office building in Minnetonka, Minnesota. The Minnetonka property allows the Bank to similarly relocate employees in the Minneapolis metro market from leased office locations into this owned property. Additionally, the Bank leased loan production offices in CRA locations in Chicago, IL and Milwaukee, WI.

At December 31, 2016, Associated Bank operated 217 banking branches serving over 100 different communities within Illinois, Minnesota and Wisconsin. The main office of Associated Bank is at 200 North Adams Street in Green Bay, Wisconsin, and is owned by the Corporation. Most of the banking locations are freestanding buildings with a drive thru and a parking lot; a smaller subset resides in supermarkets and office towers, which are generally leased. Associated Bank also operated loan production offices in Indiana, Michigan, Missouri, Ohio and Texas.

ITEM 3. LEGAL PROCEEDINGS

The information required by this item is set forth in Part II, Item 8, "Financial Statements and Supplementary Data," under Note 16 Commitments, Off-Balance Sheet Arrangements, and Legal Proceedings.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

INFORMATION ABOUT THE EXECUTIVE OFFICERS

The following is a list of names and ages of executive officers of Associated indicating all positions and offices held by each such person and each such person's principal occupation(s) or employment during the past five years. Officers are appointed annually by the Board of Directors at the meeting of directors immediately following the annual meeting of shareholders. There are no family relationships among these officers, nor any arrangement or understanding between any officer and any other person pursuant to which the officer was selected. No person other than those listed below has been chosen to become an executive officer of Associated. The information presented below is as of February 6, 2017.

Philip B. Flynn - Age: 59

Philip B. Flynn has been President and Chief Executive Officer of Associated and Associated Bank and a member of the Board of Directors since December 2009. Prior to joining Associated, he served as Vice Chairman and Chief Operating Officer of Union Bank. During his nearly 30-year career with Union Bank, he held a broad range of executive positions, including chief credit officer and head of commercial banking, specialized lending and wholesale banking. He served as a member of Union Bank's board of directors from 2004 to 2009.

William M. Bohn - Age: 50

William M. Bohn has been Executive Vice President, Head of Private Client and Institutional Services of Associated and Associated Bank since July 2014. Mr. Bohn also serves as Chairman of the Board of Associated Benefits and Risk Consulting ("ABRC") (formerly Associated Financial Group) and Associated Investment Services, Inc., and Chief Executive Officer of Associated Trust Company, N.A. He joined Associated in 1997 and most recently served as President and Chief Executive Officer of ABRC from 2004 to 2015.

Christopher J. Del Moral-Niles - Age: 46

Christopher J. Del Moral-Niles has been Executive Vice President, Chief Financial Officer of Associated and Associated Bank since March 2012. He joined Associated in July 2010 and previously served as Associated's Deputy Chief Financial Officer and Corporate Treasurer. From 2006 to 2010, he held various leadership roles for The First American Corporation and its subsidiaries, including serving as Corporate Treasurer and as divisional President of First American Trust, FSB. From 2003 to 2006, Mr. Niles held various positions with Union Bank, including serving as Senior Vice President and Director of Liability Management. Prior to his time with Union Bank, Mr. Niles spent a decade as a financial services investment banker supporting mergers and acquisitions of financial institutions, bank and thrift capital issuances, and bank funding transactions.

Patrick J. Derpinghaus - Age: 61

Patrick J. Derpinghaus has been Executive Vice President, Chief Audit Executive of Associated and Associated Bank since April 2011. Mr. Derpinghaus has over 33 years of banking experience, serving in various executive finance and audit positions. From March 2008 until March 2011, Mr. Derpinghaus served as Audit Director for U.S. Bank in Minneapolis, Minnesota. Prior to his position at U.S. Bank, Mr. Derpinghaus served as Executive Vice President and Chief Financial Officer of The Bankers Bank in Atlanta, Georgia from October 2005 to December 2007.

Judith M. Docter - Age: 55

Judith M. Docter has been Executive Vice President, Chief Human Resources Officer of Associated and Associated Bank since November 2005. Ms. Docter was Senior Vice President, Director of Organizational Development, for Associated from May 2002 to November 2005. From March 1992 to May 2002, she served as Director of Human Resources for Associated Bank, Fox Valley Region and Wealth Management.

Randall J. Erickson - Age: 57

Randall J. Erickson has been Executive Vice President, General Counsel and Corporate Secretary of Associated and Associated Bank since April 2012, and Chief Risk Officer since May 2016. Prior to joining Associated, he served as senior vice president, chief administrative officer and general counsel of Milwaukee-based bank holding company Marshall & Ilsley Corporation ("M&I") from 2002 until it was acquired by BMO Financial in 2011. Upon leaving M&I, he became a member of Milwaukee law firm Godfrey & Kahn, S.C.'s securities practice group. He had been a partner at Godfrey & Kahn, S.C. from 1990 to 2002 prior to joining M&I as its general counsel. Mr. Erickson served as a director of Renaissance Learning, Inc., a publicly-held educational software company, from 2009 until it was acquired by Permira Funds in 2011.

Breck Hanson - Age: 68

Breck Hanson has been Vice Chairman of Associated Bank since January 2016. He was previously the Executive Vice President, Head of Commercial Real Estate and Chicago Market President, of Associated and Associated Bank from October 2010 to January 2016. He is also a director of Associated Banc-Corp Foundation. He has more than 35 years of banking experience, including over 30 years of leadership responsibility within the CRE segment. Most recently, he was Executive Vice President, Commercial Real Estate with Bank of America. He spent over two decades in CRE leadership roles with LaSalle Bank prior to its merger with Bank of America.

Scott S. Hickey - Age: 61

Scott S. Hickey has been Executive Vice President, Chief Credit Officer of Associated and Associated Bank since October 2008. He held various positions with U.S. Bank from 1985 to 2008, including Chief Approval Officer of U.S. Bank from 2002 to 2008.

Timothy J. Lau - Age: 54

Timothy J. Lau has been Executive Vice President, Head of Community Markets of Associated and Associated Bank since December 2010. He is also a director of Associated Banc-Corp Foundation, Associated Investment Services, Inc. and ABRC. He joined Associated in 1989 and has held a number of senior management positions in Consumer and Small Business Banking, Residential Lending, and Commercial Banking.

James S. Payne - Age: 63

James S. Payne has been Executive Vice President, Chief Information and Operations Officer of Associated and Associated Bank since January 2017. He is responsible for the overall direction, leadership and results of the Corporation's information technology systems and strategies, as well as key operational activities. He joined Associated in 2015 and most recently served as Executive Vice President, Deputy Chief Information and Operations Officer. He brings more than 30 years of operations and technology experience to Associated Bank. Previously, he held the position of Chief Technology Officer at Huntington National Bank in Columbus, Ohio from 2010 to 2015. Before that, he held executive technology management positions at Bank of America and JPMorgan Chase & Co.

Christopher C. Piotrowski - Age: 42

Christopher C. Piotrowski has been Executive Vice President and Chief Marketing Officer of Associated and Associated Bank since December 2014. He leads strategic initiatives in marketing and brand management and is accountable for Associated's corporate communications and corporate social responsibility efforts. Prior to joining Associated, he was a Senior Director of Marketing at S.C. Johnson & Son, Inc. from 2009 to December 2014.

Paul G. Schmidt - Age: 54

Paul G. Schmidt has been Executive Vice President, Head of Commercial Real Estate of Associated and Associated Bank since January 2016. He joined Associated in April 2015 as Executive Vice President of Commercial Real Estate and was named Deputy Head of Commercial Real Estate in September 2015. Mr. Schmidt brings more than 31 years of banking experience to Associated. Most recently, he held the position of Executive Vice President, Division Manager, Commercial Real Estate at Wells Fargo from 2002 to 2015.

James K. Simons - Age: 60

James K. Simons has been Executive Vice President, Deputy Chief Credit Officer of Associated and Associated Bank since September 2016. He is responsible for the leadership and strategic execution of credit policy, reserve methodology, underwriting standards, loan quality, and overall credit administration. He brings more than 35 years of banking experience to Associated. Previously, he held the position of Chief Credit Officer for the Energy, Power, Technology, Real Estate, Private Banking, Middle Market and SBA business lines with CIT from August 2015 to July 2016. Prior to that, he was Chief Approval Officer at OneWest Bank, N.A. from March 2011 until they were acquired by CIT Group Inc. in August 2015. He also served in executive roles with Guaranty Bancorp and U.S. Bank.

David L. Stein - Age: 53

David L. Stein has been Executive Vice President, Head of Consumer and Business Banking of Associated and Associated Bank since January 2017. He was previously Executive Vice President, Head of Consumer and Commercial Banking from April 2014 until January 2017 and Executive Vice President, Head of Retail Banking from June 2007 until April 2014. He is a director of Associated Investment Services, Inc., ABRC, and Associated Banc-Corp Foundation. He was the President of the Southwest Region of Associated Bank from January 2005 until June 2007. He held various positions with JP Morgan Chase & Co., and one of its predecessors, Bank One Corporation, from 1989 until joining Associated in 2005.

John A. Utz - Age: 48

John A. Utz has been Executive Vice President, Head of Corporate Banking and Milwaukee Market President of Associated and Associated Bank since September 2015. He joined Associated in March 2010 with upwards of 20 years of banking experience, having previously served as President of Union Bank's UnionBanCal Equities and head of its Capital Markets division from September 2007 to March 2010, and as head of the National Banking and Asset Management teams from October 2002 to September 2007.

James Yee - Age: 64

James Yee has been Executive Vice President of Associated and Associated Bank since May 2012. He was previously the Executive Vice President, Chief Information and Operations Officer, of Associated and Associated Bank from May 2012 to January 2017. Prior to joining Associated, he was a Senior Executive Vice President and Chief Information Officer at Union Bank, in San Francisco, California. His experience also includes serving as Chief Information Officer of Banc of America Securities and Stanford University Medical Center.

PART II

ITEM 5. MARKET FOR REGISTRANT’S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Information in response to this item is incorporated by reference to the discussion of dividend restrictions under Part I, Item 1, "Business - Holding Company Dividends," and in Note 10 Stockholders' Equity of the notes to consolidated financial statements included under Part II, Item 8, "Financial Statements and Supplementary Data," of this report. The Corporation’s common stock is traded on the New York Stock Exchange under the symbol ASB.

The number of shareholders of record of the Corporation’s common stock, $0.01 par value, as of February 1, 2017, was approximately 8,700. Certain of the Corporation’s shares are held in “nominee” or “street” name and the number of beneficial owners of such shares is approximately 17,300.

Payment of future dividends is within the discretion of the Board of Directors and will depend, among other factors, on earnings, capital requirements, and the operating and financial condition of the Corporation. The Board of Directors makes the dividend determination on a quarterly basis. The aggregate amount of the quarterly dividends was $0.45 per common share for 2016 and $0.41 per common share for 2015.

Other than 42,755 shares of common stock repurchased to satisfy minimum tax withholding on settlements of equity compensation awards, the Corporation did not make any common stock or depositary share purchases during the fourth quarter of 2016. For a detailed discussion of the common stock and depositary share purchases during 2016 and 2015, see section “Capital” included under Part II, Item 7, “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” of this document and Part II, Item 8, Note 10 Stockholders' Equity of the notes to consolidated financial statements.

Market Information

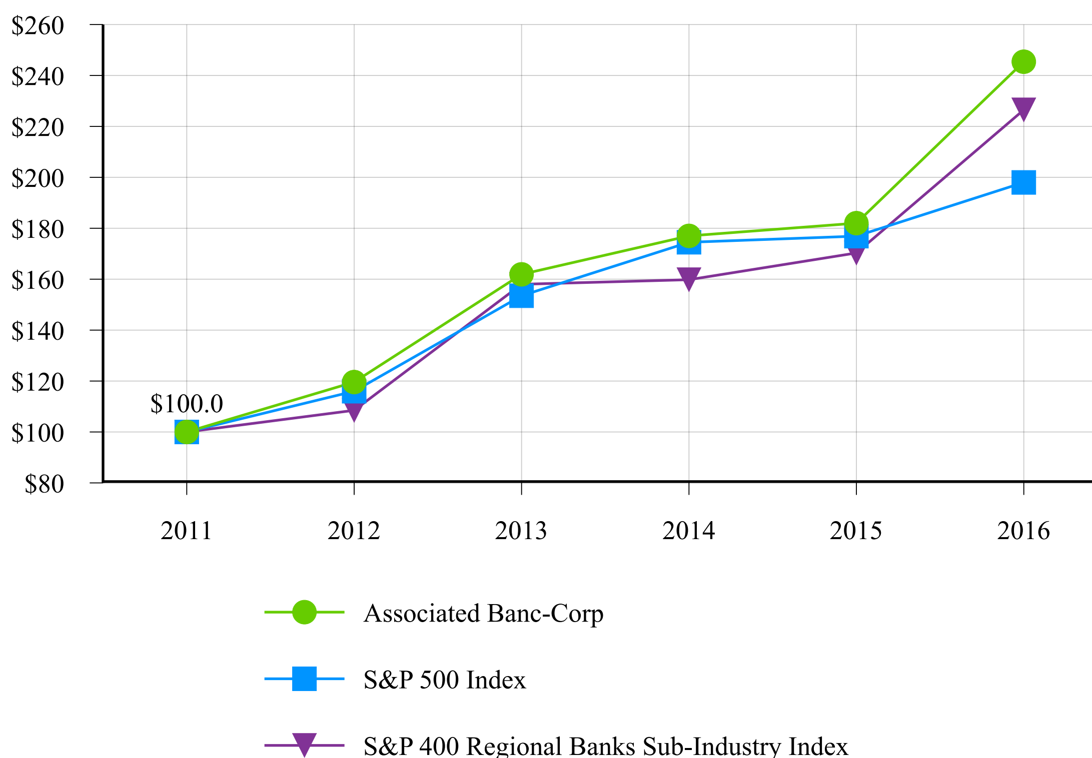
The following represents selected market information of the Corporation’s common stock for 2016 and 2015.

			Market Price Range Closing Sales Prices		
	Dividends Paid	Book Value	High	Low	Close
2016					
4th Quarter	$ 0.12	$ 19.27	$ 25.15	$ 19.05	$ 24.70
3rd Quarter	0.11	19.42	19.91	16.49	19.59
2nd Quarter	0.11	19.27	18.84	15.84	17.15
1st Quarter	0.11	18.96	18.79	15.48	17.94
2015					
4th Quarter	$ 0.11	$ 18.62	$ 20.61	$ 17.98	$ 18.75
3rd Quarter	0.10	18.77	20.55	17.17	17.97
2nd Quarter	0.10	18.44	20.84	18.50	20.27
1st Quarter	0.10	18.38	19.07	16.62	18.60

Total Shareholder Return Performance Graph

Set forth below is a line graph (and the underlying data points) comparing the yearly percentage change in the cumulative total shareholder return (change in year-end stock price plus reinvested dividends) on the Corporation's common stock with the cumulative total return of the S&P 500 Index and the S&P 400 Regional Banks Sub-Industry Index for the period of five fiscal years commencing on January 1, 2012, and ending December 31, 2016. The S&P 400 Regional Banks Sub-Industry Index is comprised of stocks on the S&P Total Market Index that are classified in the regional banks sub-industry. The graph assumes that the value of the investment in the Corporation's common stock and in each index was $100 on December 31, 2011. Historical stock price performance shown on the graph is not necessarily indicative of the future price performance.

5 Year Trend



Source: Bloomberg	2011	2012	2013	2014	2015	2016
Associated Banc-Corp	$ 100.0	$ 119.6	$ 161.9	$ 177.0	$ 182.0	$ 245.4
S&P 500 Index	$ 100.0	$ 116.0	$ 153.5	$ 174.5	$ 176.9	$ 198.0
S&P 400 Regional Banks Sub-Industry Index	$ 100.0	$ 108.5	$ 158.0	$ 159.8	$ 170.3	$ 226.5

The Total Shareholder Return Performance Graph shall not be deemed incorporated by reference by any general statement incorporating by reference this Annual Report on Form 10-K into any filing under the Securities Act or under the Exchange Act, except to the extent the Corporation specifically incorporates this information by reference, and shall not otherwise be deemed filed under such Acts.

ITEM 6. SELECTED FINANCIAL DATA

TABLE 1 Summary Results of Operations: Trends

	Years Ended December 31,				
	2016	2015	2014	2013	2012
	(In thousands, except per share data)				
Interest income	$ 791,568	$ 753,662	$ 736,745	$ 708,983	$ 718,284
Interest expense	84,295	77,384	55,778	63,440	92,292
Net interest income	707,273	676,278	680,967	645,543	625,992
Provision for credit losses	70,000	37,500	16,000	10,100	10,100
Net interest income after provision for credit losses	637,273	638,778	664,967	635,443	615,892
Noninterest income	352,883	329,357	290,861	315,957	323,419
Noninterest expense	702,560	698,347	679,783	683,507	684,852
Income before income taxes	287,596	269,788	276,045	267,893	254,459
Income tax expense	87,322	81,487	85,536	79,201	75,486
Net income	200,274	188,301	190,509	188,692	178,973
Preferred stock dividends	8,903	7,155	5,002	5,158	5,200
Net income available to common equity	$ 191,371	$ 181,146	$ 185,507	$ 183,534	$ 173,773
Earnings per common share:					
Basic	$ 1.27	$ 1.20	$ 1.17	$ 1.10	$ 1.00
Diluted	1.26	1.19	1.16	1.10	1.00
Cash dividends per common share	0.45	0.41	0.37	0.33	0.23
Weighted average common shares outstanding:					
Basic	148,769	149,350	157,286	165,584	172,255
Diluted	149,961	150,603	158,254	165,802	172,357
SELECTED FINANCIAL DATA					
Year-End Balances					
Loans	$ 20,054,716	$ 18,714,343	$ 17,593,846	$ 15,896,261	$ 15,411,022
Allowance for loan losses	278,335	274,264	266,302	268,315	297,409
Investment securities	5,953,762	6,135,644	5,801,267	5,425,795	4,966,635
Total assets	29,139,315	27,711,835	26,817,423	24,225,426	23,485,147
Deposits	21,888,448	21,007,665	18,763,504	17,267,167	16,939,865
Short and long-term funding	3,853,830	3,510,580	4,994,054	3,826,699	3,339,697
Stockholders’ equity	3,091,312	2,937,246	2,800,251	2,891,290	2,936,399
Book value per common share	19.27	18.62	18.32	17.40	16.97
Tangible book value per common share	12.78	12.10	12.06	11.62	11.39
Average Balances					
Loans	$ 19,650,667	$ 18,252,264	$ 16,838,994	$ 15,663,145	$ 14,741,785
Investment securities	6,048,563	5,912,849	5,594,232	4,995,331	4,469,541
Earning assets	26,026,661	24,571,087	22,760,128	20,980,128	19,613,777
Total assets	28,506,112	27,019,216	25,109,997	23,303,644	21,970,515
Deposits	21,005,772	19,903,087	17,647,084	17,438,195	15,582,369
Interest-bearing liabilities	20,122,402	19,330,847	17,824,786	15,962,533	14,899,893
Stockholders’ equity	3,022,962	2,895,158	2,871,932	2,892,312	2,948,988
Risk-based Capital[(1)]					
Total risk-weighted assets	$ 21,340,951	$ 19,929,963	$ 18,567,646	$ 16,694,148	$ 16,149,038
Common equity Tier 1	2,032,587	1,897,944	1,808,332	1,913,320	1,875,534
Common equity Tier 1 capital ratio	9.52%	9.52%	9.74%	11.46%	11.61%
Return on average common equity Tier 1	9.86%	9.88%	9.92%	9.77%	9.45%

(1) The Federal Reserve establishes regulatory capital requirements, including well-capitalized standards for the Corporation. Prior to 2015, the regulatory capital requirements effective for the Corporation followed the Capital Accord of the Basel Committee on Banking Supervision ("Basel I"). Beginning January 1, 2015, the regulatory capital requirements effective for the Corporation follow 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 our capital with the capital of other financial services companies. See Table 25 for a reconciliation of common equity Tier 1 and average common equity Tier 1.

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion is management's analysis to assist in the understanding and evaluation of the consolidated financial condition and results of operations of the Corporation. It should be read in conjunction with the consolidated financial statements and footnotes and the selected financial data presented elsewhere in this report.

During 2016, the Corporation modified the consolidated statements of income from prior periods' presentation to conform with the current period presentation. Specifically, OREO gains / losses were reclassified from Asset gains (losses), net to Foreclosure / OREO expense, net; loan syndications were reclassified from Card-based and other nondeposit fees to Capital market fees, net; and bond underwriting was reclassified from Other noninterest income to Capital market fees, net. In addition, the Corporation combined the lease financing portfolio with the commercial and industrial portfolio for disclosure purposes. All prior periods have been reclassified to reflect these immaterial reclassifications.

During the first quarter of 2016, the Corporation adopted a new accounting standard related to simplifying the presentation of debt issuance costs. Under this new accounting standard, debt issuance costs are still capitalized; however, they are reflected on the balance sheet with the related debt issued rather than within other assets. All prior period balance sheets were required to be restated to reflect this change in presentation. See Note 1 Summary of Significant Accounting Policies for additional information on new accounting standards adopted during 2016.

The detailed financial discussion that follows focuses on 2016 results compared to 2015. Discussion of 2015 results compared to 2014 is predominantly in section "2015 Compared to 2014."

Overview

The Corporation is a bank holding company headquartered in Wisconsin, providing a broad array of banking and nonbanking products and services to businesses and consumers primarily within our three-state footprint. The Corporation's primary sources of revenue, through the Bank, are net interest income (predominantly from loans and investment securities), and noninterest income, principally fees and other revenue from financial services provided to customers or ancillary services tied to loans and deposits.

Performance Summary and 2017 Outlook

- Diluted earnings per common share of $1.26 increased $0.07, or 6% from 2015.
- Average loans of $19.7 billion grew $1.4 billion, or 8% from a year ago. Average deposits of $21.0 billion grew $1.1 billion, or 6% from a year ago. For 2017, the Corporation expects mid-to-high single digit annual average loan growth and to maintain the loan to deposit ratio under 100%.
- Net interest income of $707 million increased $31 million, or 5% from 2015. Net interest margin of 2.80% declined from 2.84% in 2015. For 2017, the Corporation expects a stable to improving net interest margin trend, assuming additional Federal Reserve action to raise interest rates.
- Provision for credit losses of $70 million increased $33 million from 2015. For 2017, 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 $353 million increased $24 million or 7% from 2015. For 2017, the Corporation expects improving fee-based and capital market revenues, declining mortgage banking income, and increasing tax credit investment activity.
- Noninterest expenses of $703 million increased $4 million, or 1% from 2015. For 2017, the Corporation expects noninterest expense to be approximately 1% higher than 2016 and continued improvement to the efficiency ratio.

INCOME STATEMENT ANALYSIS

Net Interest Income

Table 2 Average Balances and Interest Rates (interest and rates on a fully tax-equivalent basis)

	Years Ended December 31,								
	2016			2015			2014		
	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:[1][2][3]									
Commercial and business lending	$ 7,395,524	$ 238,921	3.23%	$ 7,035,449	$ 223,639	3.18%	$ 6,495,338	$ 219,386	3.38%
Commercial real estate lending	4,724,412	163,421	3.46%	4,222,218	146,372	3.47%	3,990,675	146,802	3.68%
Total commercial	12,119,936	402,342	3.32%	11,257,667	370,011	3.29%	10,486,013	366,188	3.49%
Residential mortgage	6,156,524	194,941	3.17%	5,538,690	182,228	3.29%	4,864,054	168,830	3.47%
Retail	1,374,207	66,053	4.81%	1,455,907	67,524	4.64%	1,488,927	67,382	4.53%
Total loans	19,650,667	663,336	3.38%	18,252,264	619,763	3.40%	16,838,994	602,400	3.58%
Investment securities:									
Taxable	4,955,980	95,152	1.92%	4,936,065	100,292	2.03%	4,726,511	102,464	2.17%
Tax-exempt[1]	1,092,583	49,036	4.49%	976,784	47,663	4.88%	867,721	44,467	5.12%
Other short-term investments	327,431	4,829	1.48%	405,974	6,591	1.62%	326,902	6,635	2.03%
Investments and other	6,375,994	149,017	2.34%	6,318,823	154,546	2.45%	5,921,134	153,566	2.59%
Total earning assets	$26,026,661	$ 812,353	3.12%	$24,571,087	$ 774,309	3.15%	$22,760,128	$ 755,966	3.32%
Other assets, net	2,479,451			2,448,129			2,349,869		
Total assets	$28,506,112			$27,019,216			$25,109,997		
LIABILITIES AND STOCKHOLDERS' EQUITY									
Interest-bearing liabilities:									
Interest-bearing deposits									
Savings	$ 1,428,292	$ 860	0.06%	$ 1,336,755	$ 1,000	0.07%	$ 1,249,452	$ 968	0.08%
Interest-bearing demand	3,790,185	10,361	0.27%	3,201,085	4,266	0.13%	2,983,747	4,124	0.14%
Money market	9,127,940	26,978	0.30%	9,210,179	16,574	0.18%	7,614,042	12,452	0.16%
Time deposits	1,553,069	12,136	0.78%	1,613,547	11,285	0.70%	1,587,641	8,750	0.55%
Total interest-bearing deposits	15,899,486	50,335	0.32%	15,361,566	33,125	0.22%	13,434,882	26,294	0.20%
Federal funds purchased and securities sold under agreements to repurchase	609,807	1,314	0.22%	625,736	943	0.15%	795,257	1,219	0.15%
Other short-term funding	699,358	2,114	0.30%	220,321	465	0.21%	573,460	785	0.14%
Total short-term funding	1,309,165	3,428	0.26%	846,057	1,408	0.17%	1,368,717	2,004	0.15%
Long-term funding	2,913,751	30,532	1.05%	3,123,224	42,851	1.37%	3,021,187	27,480	0.91%
Total short and long-term funding	4,222,916	33,960	0.80%	3,969,281	44,259	1.12%	4,389,904	29,484	0.67%
Total interest-bearing liabilities	$20,122,402	$ 84,295	0.42%	$19,330,847	$ 77,384	0.40%	$17,824,786	$ 55,778	0.31%
Noninterest-bearing demand deposits	5,106,286			4,541,521			4,212,202		
Other liabilities	254,462			251,690			201,077		
Stockholders' equity	3,022,962			2,895,158			2,871,932		
Total liabilities and stockholders' equity	$28,506,112			$27,019,216			$25,109,997		
Interest rate spread			2.70%			2.75%			3.01%
Net free funds			0.10%			0.09%			0.07%
Fully tax-equivalent net interest income and net interest margin		$ 728,058	2.80%		$ 696,925	2.84%		$ 700,188	3.08%
Fully tax-equivalent adjustment		$ 20,785			$ 20,647			$ 19,221	
Net interest income		$ 707,273			$ 676,278			$ 680,967	

(1) The yield on tax-exempt loans and securities is computed on a fully tax-equivalent basis using a tax rate of 35% for all periods presented and is net of the effects of certain disallowed interest deductions.

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

(3) Interest income includes net loan fees.

Net interest income is the primary source of the Corporation's revenue. Net interest income is the difference between interest income on interest-earning assets, such as loans and investment securities, and the interest expense on interest-bearing deposits and other borrowings used to fund interest-earning and other assets or activities. Net interest income is affected by the amount and composition of earning assets and interest-bearing liabilities, as well as the sensitivity of the balance sheet to changes in interest rates, including characteristics such as the fixed or variable nature of the financial instruments, contractual maturities, re-pricing frequencies, loan prepayment behavior, and the use of interest rate derivative financial instruments.

Interest rate spread and net interest margin are utilized to measure and explain changes in net interest income. Interest rate spread is the difference between the yield on earning assets and the rate paid on interest-bearing liabilities that fund those assets. The net interest margin is expressed as the percentage of net interest income to average earning assets. The net interest margin exceeds the interest rate spread because noninterest-bearing sources of funds ("net free funds"), principally noninterest-bearing demand deposits and stockholders' equity, also support earning assets. To compare tax-exempt asset yields to taxable yields, the yield on tax-exempt loans and investment securities is computed on a fully tax-equivalent basis. Net interest income, interest rate spread, and net interest margin are discussed on a fully tax-equivalent basis.

Table 2 provides average balances of earning assets and interest-bearing liabilities, the associated interest income and expense, and the corresponding interest rates earned and paid, as well as net interest income, interest rate spread, and net interest margin on a fully tax-equivalent basis for the years ended December 31, 2016, 2015 and 2014. Tables 3 and 4 present additional information to facilitate the review and discussion of fully tax-equivalent net interest income, interest rate spread, and net interest margin.

Notable contributions to the change in 2016 net interest income were:

- Net interest income in the consolidated statements of income (which excludes the fully tax-equivalent adjustment) was $707 million in 2016 compared to $676 million in 2015. 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 $728 million for 2016 was $31 million higher than 2015.

- Average earning assets of $26.0 billion in 2016 were $1.5 billion, or 6% higher than 2015. Average loans increased $1.4 billion, or 8%, including an $862 million increase in commercial loans and a $618 million increase in residential mortgage loans.

- Average interest-bearing liabilities of $20.1 billion in 2016 were up $792 million, or 4% versus 2015. On average, interest-bearing deposits increased $538 million and noninterest-bearing demand deposits (a principal component of net free funds) increased by $565 million. Average short and long-term funding increased $254 million from 2015, including a $463 million increase in short-term funding, partially offset by a $209 million decrease in long-term funding.

- The net interest margin for 2016 was 2.80%, compared to 2.84% in 2015. The 4 bp decline in net interest margin was attributable to a 5 bp decrease in interest rate spread (the result of a 3 bp decrease in the yield on earning assets and a 2 bp increase in the cost of interest-bearing liabilities), partially offset by a 1 bp higher contribution from net free funds.

- For 2016, loan yields decreased 2 bp to 3.38%, due to the re-pricing of adjustable rate loans, strong mortgage refinance activity, and competitive pricing pressures in a low interest rate environment. The yield on investment securities and other short-term investments decreased 11 bp to 2.34%, and was also impacted by the reinvestment of cash flows in a low interest rate environment and higher prepayment speeds of mortgage-related securities purchased at a premium.

- The average cost of interest-bearing liabilities was 0.42% in 2016, 2 bp higher than 2015. The increase was due to a 10 bp increase in the average cost of interest-bearing deposits (to 0.32%) and a 9 bp increase

in the cost of short-term funding (to 0.26%), both primarily due to the December 2015 Federal Reserve interest rate increase; partially offset by a 32 bp decrease in the cost of long-term funding (to 1.05%), primarily due to the early redemption of $430 million of senior notes in February 2016.

- The Federal Reserve increased the targeted federal funds rate on December 14, 2016 to a range of 0.50%-0.75% from 0.25%-0.50%. On December 17, 2015, the Federal Reserve increased the targeted Federal funds rate to a range of 0.25%-0.50% from 0.00%-0.25%. The Federal Reserve expects only gradual increases in the federal funds rate for some time. However, the timing and magnitude of any such increases are uncertain and will depend on domestic and global economic conditions.

Table 3 Rate/Volume Analysis(1)

	2016 Compared to 2015 Increase (Decrease) Due to			2015 Compared to 2014 Increase (Decrease) Due to		
	Volume	Rate	Net	Volume	Rate	Net
	($ in Thousands)					
Interest income:						
Loans:[2]						
Commercial and business lending	$ 11,583	$ 3,699	$ 15,282	$ 17,662	$ (13,409)	$ 4,253
Commercial real estate lending	17,374	(325)	17,049	8,271	(8,701)	(430)
Total commercial	28,957	3,374	32,331	25,933	(22,110)	3,823
Residential mortgage	19,756	(7,043)	12,713	22,530	(9,132)	13,398
Retail	(3,881)	2,410	(1,471)	(1,512)	1,654	142
Total loans	44,832	(1,259)	43,573	46,951	(29,588)	17,363
Investment securities:						
Taxable	(2,037)	(3,103)	(5,140)	2,757	(4,929)	(2,172)
Tax-exempt[2]	5,380	(4,007)	1,373	5,395	(2,199)	3,196
Other short-term investments	(1,143)	(619)	(1,762)	1,429	(1,473)	(44)
Investments and other	2,200	(7,729)	(5,529)	9,581	(8,601)	980
Total earning assets	$ 47,032	$ (8,988)	$ 38,044	$ 56,532	$ (38,189)	$ 18,343
Interest expense:						
Savings	$ 65	$ (205)	$ (140)	$ 66	$ (34)	$ 32
Interest-bearing demand	908	5,187	6,095	293	(151)	142
Money market	(150)	10,554	10,404	2,788	1,334	4,122
Time deposits	(471)	1,322	851	159	2,376	2,535
Total interest-bearing deposits	352	16,858	17,210	3,306	3,525	6,831
Federal funds purchased and securities sold under agreements to repurchase	(25)	396	371	(256)	(20)	(276)
Other short-term funding	1,376	273	1,649	(623)	303	(320)
Total short-term funding	1,351	669	2,020	(879)	283	(596)
Long-term funding	(2,724)	(9,595)	(12,319)	958	14,413	15,371
Total short and long-term funding	(1,373)	(8,926)	(10,299)	79	14,696	14,775
Total interest-bearing liabilities	(1,021)	7,932	6,911	3,385	18,221	21,606
Fully tax-equivalent net interest income	$ 48,053	$ (16,920)	$ 31,133	$ 53,147	$ (56,410)	$ (3,263)

(1)The change in interest due to both rate and volume has been allocated in proportion to the relationship to the dollar amounts of the change in each.
(2)The yield on tax-exempt loans and securities is computed on a fully tax-equivalent basis using a tax rate of 35% for all periods presented and is net of the effects of certain disallowed interest deductions.

Table 4 Interest Rate: Spread and Interest Margin (on a fully tax-equivalent basis)

	2016 Average			2015 Average			2014 Average		
	Balance	% of Earning Assets	Yield / Rate	Balance	% of Earning Assets	Yield / Rate	Balance	% of Earning Assets	Yield / Rate
	($ in Thousands)								
Total loans	$ 19,650,667	75.5%	3.38%	$ 18,252,264	74.3%	3.40%	$ 16,838,994	74.0%	3.58%
Investments and other	6,375,994	24.5%	2.34%	6,318,823	25.7%	2.45%	5,921,134	26.0%	2.59%
Earning assets	$ 26,026,661	100.0%	3.12%	$ 24,571,087	100.0%	3.15%	$ 22,760,128	100.0%	3.32%
Financed by:									
Interest-bearing liabilities	$ 20,122,402	77.3%	0.42%	$ 19,330,847	78.7%	0.40%	$ 17,824,786	78.3%	0.31%
Noninterest-bearing liabilities	5,904,259	22.7%		5,240,240	21.3%		4,935,342	21.7%	
Total funds sources	$ 26,026,661	100.0%	0.32%	$ 24,571,087	100.0%	0.31%	$ 22,760,128	100.0%	0.25%
Interest rate spread			2.70%			2.75%			3.01%
Net free funds			0.10%			0.09%			0.07%
Net interest margin			2.80%			2.84%			3.08%
Average prime rate*			3.51%			3.26%			3.25%
Average effective federal funds rate*			0.39%			0.13%			0.08%
Average spread			312 bp			313 bp			317 bp

* Source: Bloomberg

Provision for Credit Losses

The provision for credit losses (which includes the provision for loan losses and the provision for unfunded commitments) in 2016 was $70 million, compared to $38 million in 2015. Net charge offs were $65 million (representing 0.33% of average loans) for 2016, compared to $30 million (representing 0.16% of average loans) for 2015. The ratio of the allowance for loan losses to total loans was 1.39% and 1.47% at December 31, 2016 and 2015, respectively.

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 sections, "Loans," "Credit Risk," "Nonperforming Assets," and "Allowance for Credit Losses."

Noninterest Income

Table 5 Noninterest Income

	Years Ended December 31,			Change From Prior Year			
	2016	2015	2014	$ Change 2016	% Change 2016	$ Change 2015	% Change 2015
	($ in Thousands)						
Trust service fees	$ 46,867	$ 48,840	$ 48,403	$ (1,973)	(4)%	$ 437	1 %
Service charges on deposit accounts	66,609	65,471	68,779	1,138	2 %	(3,308)	(5)%
Card-based and other nondeposit fees	50,077	47,912	47,114	2,165	5 %	798	2 %
Insurance commissions	80,795	75,363	44,421	5,432	7 %	30,942	70 %
Brokerage and annuity commissions	16,235	15,378	16,089	857	6 %	(711)	(4)%
Total fee-based revenue	260,583	252,964	224,806	7,619	3 %	28,158	13 %
Mortgage banking income	50,248	43,439	32,708	6,809	16 %	10,731	33 %
Mortgage servicing rights (expense)	(12,127)	(11,176)	(11,388)	(951)	9 %	212	(2)%
Mortgage banking, net	38,121	32,263	21,320	5,858	18 %	10,943	51 %
Capital market fees, net	22,059	14,558	12,862	7,501	52 %	1,696	13 %
Bank owned life insurance income	14,371	9,796	13,576	4,575	47 %	(3,780)	(28)%
Other	8,519	9,103	6,973	(584)	(6)%	2,130	31 %
Subtotal (“fee income”)	343,653	318,684	279,537	24,969	8 %	39,147	14 %
Asset gains (losses), net	(86)	2,540	10,830	(2,626)	(103)%	(8,290)	(77)%
Investment securities gains, net	9,316	8,133	494	1,183	15 %	7,639	N/M
Total noninterest income	$ 352,883	$ 329,357	$ 290,861	$ 23,526	7 %	$ 38,496	13 %
Mortgage loans originated and acquired for sale during period	$ 1,271,124	$ 1,228,106	$ 1,069,852	$ 43,018	4 %	$ 158,254	15 %
Mortgage loan settlements during period	$ 1,542,660	$ 1,241,012	$ 1,010,167	$ 301,648	24 %	$ 230,845	23 %
Trust assets under management, at market value	$ 8,301,564	$ 7,729,131	$ 7,993,047	$ 572,433	7 %	$ (263,916)	(3)%
Fee income ratio *	32%	32%	29%				
N/M = Not Meaningful							

* Fee income ratio is fee income, per the above table, divided by total revenue (defined as net interest income plus noninterest income).

Notable contributions to the change in 2016 noninterest income were:

- Fee-based revenue was $261 million, an increase of $8 million (3%) compared to 2015. Insurance commissions were $81 million, an increase of $5 million and were primarily attributable to property and casualty and employee benefit related commissions.
- Net mortgage banking income for 2016 was $38 million, up $6 million (18%) compared to 2015. Net mortgage banking consists of gross mortgage banking income less mortgage servicing rights expense. Gross mortgage banking income includes servicing fees, the gain or loss on sales of mortgage loans to the secondary market, changes to the mortgage repurchase reserve, and the fair value adjustments on the mortgage derivatives. Gross mortgage banking income increased $7 million (16%), primarily due to gains on portfolio loan sales.
- Net capital market fees of $22 million for 2016, were up $8 million (52%) compared to 2015. This increase was primarily due to higher customer hedging transactions and higher loan syndication activity.
- Bank owned life insurance income was $14 million for 2016, an increase of $5 million (47%) compared to 2015, primarily due to proceeds from BOLI policy redemptions in 2016.

Noninterest Expense

Table 6 Noninterest Expense

	Years Ended December 31,			Change From Prior Year			
	2016	2015	2014	$ Change 2016	% Change 2016	$ Change 2015	% Change 2015
	($ in Thousands)						
Personnel expense	$ 414,837	$ 404,741	$ 390,399	$ 10,096	2 %	$ 14,342	4 %
Occupancy	56,069	60,896	57,677	(4,827)	(8)%	3,219	6 %
Equipment	21,489	23,209	24,784	(1,720)	(7)%	(1,575)	(6)%
Technology	57,300	60,613	55,472	(3,313)	(5)%	5,141	9 %
Business development and advertising	26,351	25,772	26,144	579	2 %	(372)	(1)%
Other intangible amortization	2,093	3,094	3,747	(1,001)	(32)%	(653)	(17)%
Loan expense	13,641	14,102	13,866	(461)	(3)%	236	2 %
Legal and professional fees	19,869	17,052	17,485	2,817	17 %	(433)	(2)%
Foreclosure / OREO expense, net	4,844	5,442	7,264	(598)	(11)%	(1,822)	(25)%
FDIC expense	34,750	26,000	23,761	8,750	34 %	2,239	9 %
Other	51,317	57,426	59,184	(6,109)	(11)%	(1,758)	(3)%
Total noninterest expense	$ 702,560	$ 698,347	$ 679,783	$ 4,213	1 %	$ 18,564	3 %
Personnel expense to total noninterest expense	59%	58%	57%				
Average full-time equivalent employees	4,426	4,421	4,406				

Notable contributions to the change in 2016 noninterest expense were:

- Personnel expense (which includes salary-related expenses and fringe benefit expenses) was $415 million for 2016, up $10 million (2%) from 2015. This increase was primarily attributable to annual merit increases, higher production increasing sales commissions, and increased severance.
- Nonpersonnel noninterest expenses on a combined basis were $288 million, down $6 million (2%) compared to 2015. FDIC expense was $9 million (34%) higher compared to 2015 reflecting growth in criticized and risk-weighted assets. Occupancy expense was down $5 million (8%) from 2015, primarily attributable to lower lease expense from ongoing consolidation efforts in 2015 and the Corporation's acquisition of the Milwaukee Center. Technology was down $3 million (5%) primarily driven by a reduction in external technology support services. All remaining noninterest expense categories on a combined basis were down $6 million (4%).

Income Taxes

The Corporation recognized income tax expense of $87 million for 2016 compared to income tax expense of $81 million for 2015. The change in income tax expense was primarily due to the increase in the level of pretax income between the years. The effective tax rate was 30.4% for 2016, compared to an effective tax rate of 30.2% for 2015. Income tax expense is also impacted by ongoing federal and state income tax audits and changes in tax law and rates.

See Note 1 Summary of Significant Accounting Policies of the notes to consolidated financial statements for the Corporation's income tax accounting policy and section "Critical Accounting Policies." 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 the 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 Note 13 Income Taxes of the notes to consolidated financial statements for more information.

BALANCE SHEET ANALYSIS

- At December 31, 2016, total assets were $29.1 billion, up $1.4 billion (5%) from December 31, 2015.
- Loans of $20.1 billion at December 31, 2016 were up $1.3 billion (7%) from December 31, 2015. See Note 4 Loans for additional information on loans.
- Premises and equipment, net of $330 million increased $63 million (23%) from December 31, 2015, primarily due to the purchase of the Milwaukee Center. See Note 6 Premises and Equipment for additional information on premises and equipment.
- At December 31, 2016, total deposits of $21.9 billion were up $881 million (4%) from December 31, 2015. See section Note 7 Deposits for additional information on deposits.
- Short and long-term funding of $3.9 billion at December 31, 2016 increased $343 million (10%) since year-end 2015, primarily due to a $258 million increase in short-term funding and an $85 million increase in long-term funding. See Note 8 Short-Term Funding and Note 9 Long-Term Funding for additional information on short and long-term funding.

Loans

Table 7 Loan Composition

	As of December 31,									
	2016		2015		2014		2013		2012	
	Amount	% of Total	Amount	% of Total	Amount	% of Total	Amount	% of Total	Amount	% of Total
	($ in Thousands)									
Commercial and industrial	$ 6,489,014	32%	$ 6,190,683	33%	$ 5,957,431	34%	$ 4,878,163	31%	$ 4,566,217	30%
Commercial real estate — owner occupied	897,724	5%	918,212	5%	1,007,937	6%	1,114,715	7%	1,219,747	8%
Commercial and business lending	7,386,738	37%	7,108,895	38%	6,965,368	40%	5,992,878	38%	5,785,964	38%
Commercial real estate — investor	3,574,732	18%	3,234,266	17%	3,056,485	17%	2,939,456	18%	2,906,759	19%
Real estate construction	1,432,497	7%	1,162,145	6%	1,008,956	6%	896,248	6%	655,381	4%
Commercial real estate lending	5,007,229	25%	4,396,411	23%	4,065,441	23%	3,835,704	24%	3,562,140	23%
Total commercial	12,393,967	62%	11,505,306	61%	11,030,809	63%	9,828,582	62%	9,348,104	61%
Residential mortgage	6,332,327	31%	5,783,267	31%	5,056,891	28%	4,577,711	29%	4,390,454	28%
Home equity revolving lines of credit	840,872	4%	883,759	5%	887,779	5%	874,840	5%	936,065	6%
Home equity loans junior liens	93,571	1%	122,043	1%	164,148	1%	208,054	1%	269,672	2%
Home equity	934,443	5%	1,005,802	6%	1,051,927	6%	1,082,894	6%	1,205,737	8%
Other consumer	393,979	2%	419,968	2%	454,219	3%	407,074	3%	466,727	3%
Total consumer	7,660,749	38%	7,209,037	39%	6,563,037	37%	6,067,679	38%	6,062,918	39%
Total loans	$20,054,716	100%	$18,714,343	100%	$17,593,846	100%	$15,896,261	100%	$15,411,022	100%
Commercial real estate and Real estate construction loan detail:										
Farmland	$ 1,613	—%	$ 7,135	—%	$ 9,249	—%	$ 8,591	—%	$ 17,730	1%
Multi-family	1,027,541	29%	932,360	29%	976,956	32%	951,348	33%	905,372	31%
Non-owner occupied	2,545,578	71%	2,294,771	71%	2,070,280	68%	1,979,517	67%	1,983,657	68%
Commercial real estate — investor	$ 3,574,732	100%	$ 3,234,266	100%	$ 3,056,485	100%	$ 2,939,456	100%	$ 2,906,759	100%
1-4 family construction	$ 358,398	25%	$ 309,396	27%	$ 304,992	30%	$ 259,031	29%	$ 176,874	27%
All other construction	1,074,099	75%	852,749	73%	703,964	70%	637,217	71%	478,507	73%
Real estate construction	$ 1,432,497	100%	$ 1,162,145	100%	$ 1,008,956	100%	$ 896,248	100%	$ 655,381	100%

- Commercial and business lending was $7.4 billion and represented 37% of total loans at December 31, 2016, an increase of $278 million (4%) from December 31, 2015.
- Commercial real estate lending totaled $5.0 billion at December 31, 2016 and represented 25% of total loans, an increase of $611 million (14%) from December 31, 2015.
- Consumer loans were $7.7 billion and represented 38% of total loans at December 31, 2016, an increase of $452 million (6%) from December 31, 2015.

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 2016 and 2015. 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.

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.

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.

The loan portfolio is widely diversified by types of borrowers, industry groups, and market areas within our 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 December 31, 2016, 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 and small businesses and lease financing. At December 31, 2016, the largest industry group within the commercial and business lending category was the manufacturing sector which represented 7% of total loans and 18% of the total commercial and business lending portfolio. The next largest industry group within the commercial and business lending category included the power and utilities portfolio, which represented 5% of total loans and represented 13% of the total commercial and business lending portfolio. The remaining commercial and business lending portfolio was spread over a diverse range of industries, none of which exceeded 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. Currently, a higher risk segment of the commercial and business lending portfolio is loans to borrowers supporting oil and gas exploration and production, which are further discussed under "Oil and gas lending" below.

Oil and gas lending:

The Corporation provides reserve based loans to oil and gas exploration and production firms. The Corporation's oil and gas lending team is based in Houston and focuses on serving the funding needs of small and mid-sized companies in the upstream oil and gas business. The oil and gas portfolio was comprised of approximately 60 credits with approximately $1 billion in commitments and represented approximately 3% of total loans at December 31, 2016. The oil and gas loans are generally first lien, reserve-based, and borrowing base dependent lines of credit. A small portion of the portfolio is in a second lien position to which the Corporation also holds the first lien position. The portfolio is diversified across all major U.S. geographic basins. The portfolio is diverse by product line with approximately 60% in oil and 40% in gas at December 31, 2016. Borrowing base re-determinations for the portfolio are completed at least twice a year and are based on detailed engineering reports and discounted cash flow analysis.

The following table summarizes information about the Corporation's oil and gas loan portfolio.

Table 8 Oil and Gas Loan Portfolio

	Years Ended December 31,				
	2016	2015	2014	2013	2012
	($ in Millions)				
Pass	$ 426	$ 522	$ 725	$ 491	$ 281
Special mention	20	86	29	—	—
Potential problem	75	124	—	—	—
Nonaccrual	147	20	—	—	—
Total oil and gas related loans	$ 668	$ 752	$ 754	$ 491	$ 281
Annual net charge offs	$ 59	$ —	$ —	$ —	$ —
Oil and gas related allowance	$ 38	$ 42	$ 17	$ 7	$ 5
Oil and gas related allowance ratio	5.7%	5.6%	2.3%	1.4%	1.8%

The Corporation proactively risk grades and reserves accordingly against the oil and gas loan portfolio. Lower market pricing and increased market volatility has led to downward migration within the portfolio. At December 31, 2016, nonaccrual oil and gas related loans totaled $147 million, representing 22% of the oil and gas loan portfolio, an increase of $127 million from December 31, 2015. Potential problem oil and gas related loans decreased to $75 million at December 31, 2016, compared to $124 million at December 31, 2015 primarily due to the downward migration to nonaccrual. The increase in nonaccrual oil and gas related loans was primarily due to downgrades associated with the issuance of revised regulatory guidance, as well as the negative outlook for a near term oil and gas price recovery.

Commercial real estate - investor:

Commercial real estate-investor is comprised of loans secured by various non-owner occupied or investor income producing property types. At December 31, 2016, the largest property type exposures within the commercial real estate-investor portfolio were loans secured by retail properties and multi-family properties, each represented 5% of total loans and 29% of the total commercial real estate-investor portfolio, respectively. The remaining commercial real estate-investor portfolio was spread over various other property types, none of which exceeded 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 loan-to-value ("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 which 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.

Table 9 Commercial Loan Distribution and Interest Rate Sensitivity

December 31, 2016	Within 1 Year[(1)]	1-5 Years	After 5 Years	Total	% of Total
			($ in Thousands)		
Commercial and industrial	$ 5,618,663	$ 616,371	$ 253,980	$ 6,489,014	52%
Commercial real estate — investor	2,369,265	1,131,303	74,164	3,574,732	29%
Commercial real estate — owner occupied	385,293	384,393	128,038	897,724	7%
Real estate construction	1,195,487	224,492	12,518	1,432,497	12%
Total	$ 9,568,708	$ 2,356,559	$ 468,700	$ 12,393,967	100%
Fixed rate	$ 4,151,424	$ 884,133	$ 288,501	$ 5,324,058	43%
Floating or adjustable rate	5,417,284	1,472,426	180,199	7,069,909	57%
Total	$ 9,568,708	$ 2,356,559	$ 468,700	$ 12,393,967	100%
Percent by maturity distribution	77%	19%	4%	100%	

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

The total commercial loans that were floating or adjustable rate was $7.1 billion (57%) at December 31, 2016. Including the $4.2 billion of fixed rate loans due within one year, 91% of the commercial loan portfolio noted above matures, re-prices, or resets within one year. Of the fixed rate loans due within one year, 96% have an original maturity within one year.

Residential mortgage:

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%. At December 31, 2016, the residential mortgage portfolio was comprised of $1.8 billion of fixed-rate residential real estate mortgages and $4.5 billion of variable-rate residential real estate mortgages, compared to $1.6 billion of fixed-rate mortgages and $4.2 billion variable-rate mortgages at December 31, 2015. During the third quarter of 2016, the Corporation sold $239 million of portfolio mortgage loans generating gross gains of $9 million. The residential mortgage portfolio is focused primarily in our three-state branch footprint, with approximately 88% of the outstanding loan balances in our branch footprint at December 31, 2016. 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 also 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 were sold in the secondary market with servicing rights retained. Beginning in the fourth quarter of 2016, the Corporation began to hold some of these 30-year mortgage loans to take advantage of rising rates.

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 Federal Home Loan Mortgage Corporation ("FHLMC") and Federal National Mortgage Association ("FNMA") secondary marketing guidelines.

Home equity:

Home equity consists of both home equity lines of credit and closed-end home equity loans. Approximately 24% of home equity lines are first lien positions. Home equity loans and lines in a junior position at December 31, 2016 included approximately 40% for which the Corporation also owned or serviced the related first lien loan and approximately 60% where the Corporation did not service the related first lien loan.

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, our 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.

Based upon outstanding balances at December 31, 2016, the following table presents the periods when home equity lines of credit revolving periods are scheduled to end.

Table 10 Home Equity Line of Credit - Revolving Period End Dates

	$ in Thousands	% to Total
Less than 5 years	$ 47,646	6%
5 — 10 years	219,908	26%
Over 10 years	573,318	68%
Total home equity revolving lines of credit	$ 840,872	100%

Other consumer:

Other consumer consists of student loans, as well as short-term and other personal installment loans and credit cards. The Corporation had $214 million and $249 million of student loans at December 31, 2016, and December 31, 2015, respectively, the majority of which are government guaranteed. Credit risk for non-government guaranteed student, short-term and 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 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. The following table provides detailed information regarding nonperforming assets.

Table 11 Nonperforming Assets

	As of December 31,				
	2016	2015	2014	2013	2012
	($ in Thousands)				
Nonperforming assets by type:					
Commercial and industrial	$ 183,371	$ 93,575	$ 51,464	$ 37,788	$ 42,213
Commercial real estate — owner occupied	9,544	8,049	25,825	29,664	24,254
Commercial and business lending	192,915	101,624	77,289	67,452	66,467
Commercial real estate — investor	18,051	8,643	22,685	37,596	58,687
Real estate construction	844	940	5,399	6,467	27,302
Commercial real estate lending	18,895	9,583	28,084	44,063	85,989
Total commercial	211,810	111,207	105,373	111,515	152,456
Residential mortgage	50,236	51,482	54,976	53,767	68,076
Home equity revolving lines of credit	8,588	9,917	9,853	11,883	20,446
Home equity loans junior liens	4,413	5,327	6,598	7,149	10,052
Home equity	13,001	15,244	16,451	19,032	30,498
Other consumer	256	325	613	1,114	1,838
Total consumer	63,493	67,051	72,040	73,913	100,412
Total nonaccrual loans (“NALs”)	275,303	178,258	177,413	185,428	252,868
Commercial real estate owned	7,176	7,942	11,699	8,359	16,664
Residential real estate owned	3,098	4,768	4,111	5,217	12,748
Bank properties real estate owned	—	1,859	922	4,542	5,488
OREO	10,274	14,569	16,732	18,118	34,900
Other nonperforming assets	7,418	—	—	—	—
Total nonperforming assets (“NPAs”)	$ 292,995	$ 192,827	$ 194,145	$ 203,546	$ 287,768
Accruing loans past due 90 days or more:					
Commercial	$ 236	$ 249	$ 254	$ 1,199	$ 1,036
Consumer	1,377	1,399	1,369	1,151	1,253
Total accruing loans past due 90 days or more	$ 1,613	$ 1,648	$ 1,623	$ 2,350	$ 2,289
Restructured loans (accruing):					
Commercial	$ 53,022	$ 59,595	$ 68,200	$ 94,265	$ 88,182
Consumer	26,835	27,768	30,016	29,720	32,905
Total restructured loans (accruing)	$ 79,857	$ 87,363	$ 98,216	$ 123,985	$ 121,087
Nonaccrual restructured loans (included in nonaccrual loans)	$ 29,385	$ 37,684	$ 57,656	$ 59,585	$ 80,590
Ratios at year end:					
Nonaccrual loans to total loans	1.37%	0.95%	1.01%	1.17%	1.64%
NPAs to total loans plus OREO	1.46%	1.03%	1.10%	1.28%	1.86%
NPAs to total assets	1.01%	0.70%	0.72%	0.84%	1.23%
Allowance for loan losses to nonaccrual loans	101%	154%	150%	145%	118%

Table 11 Nonperforming Assets (continued)

	Years Ended December 31,				
	2016	2015	2014	2013	2012
	($ in Thousands)				
Accruing loans 30-89 days past due by type:					
Commercial and industrial	$ 1,413	$ 1,011	$ 14,747	$ 6,826	$ 11,351
Commercial real estate — owner occupied	1,384	7,142	10,628	3,106	11,053
Commercial and business lending	2,797	8,153	25,375	9,932	22,404
Commercial real estate — investor	931	291	1,208	23,215	13,472
Real estate construction	369	296	984	1,954	3,155
Commercial real estate lending	1,300	587	2,192	25,169	16,627
Total commercial	4,097	8,740	27,567	35,101	39,031
Residential mortgage	8,142	4,930	4,846	7,228	10,860
Home equity revolving lines of credit	4,219	5,559	6,725	6,728	7,829
Home equity loans junior liens	1,630	2,360	2,058	2,842	4,252
Home equity	5,849	7,919	8,783	9,570	12,081
Other consumer	3,189	1,870	1,932	1,150	2,109
Total consumer	17,180	14,719	15,561	17,948	25,050
Total accruing loans 30-89 days past due	$ 21,277	$ 23,459	$ 43,128	$ 53,049	$ 64,081
Potential problem loans by type:					
Commercial and industrial	$ 227,196	$ 233,130	$ 111,231	$ 115,453	$ 128,698
Commercial real estate — owner occupied	64,524	35,706	48,695	56,789	99,592
Commercial and business lending	291,720	268,836	159,926	172,242	228,290
Commercial real estate — investor	51,228	25,944	24,043	52,429	107,068
Real estate construction	2,465	3,919	1,776	5,263	13,092
Commercial real estate lending	53,693	29,863	25,819	57,692	120,160
Total commercial	345,413	298,699	185,745	229,934	348,450
Residential mortgage	5,615	2,796	3,781	3,312	8,762
Home equity revolving lines of credit	46	48	204	303	520
Home equity loans junior liens	68	174	676	1,810	3,150
Home equity	114	222	880	2,113	3,670
Other consumer	—	—	2	50	111
Total consumer	5,729	3,018	4,663	5,475	12,543
Total potential problem loans	$ 351,142	$ 301,717	$ 190,408	$ 235,409	$ 360,993

Nonaccrual Loans: Nonaccrual loans are considered to be one indicator of potential future loan losses. See also management's accounting policy for nonaccrual loans in Note 1 Summary of Significant Accounting Policies and Note 4 Loans of the notes to consolidated financial statements for additional nonaccrual loan disclosures. The ratio of nonaccrual loans to total loans at December 31, 2016 was 1.37%, as compared to 0.95% at December 31, 2015.

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. Accruing loans 90 days or more past due at December 31, 2016 were relatively unchanged from December 31, 2015.

Troubled Debt Restructurings ("Restructured Loans"): Loans are considered restructured loans if concessions have been granted to borrowers that are experiencing financial difficulty. See also management's accounting policy for restructured loans in Note 1 Summary of Significant Accounting Policies and Note 4 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. The increase in potential problem loans at December 31, 2016 was primarily due to the risk migration on certain general commercial loans.

Other Real Estate Owned: OREO decreased to $10 million at December 31, 2016, compared to $15 million at December 31, 2015. Management actively seeks to ensure properties held are monitored to minimize the Corporation's risk of loss. See also management's accounting policy for OREO in Note 1 Summary of Significant Accounting Policies of the notes to consolidated financial statements.

Other Nonperforming Assets: Other nonperforming assets increased to $7 million at December 31, 2016. The asset represents the Bank's ownership interest in a profit participation agreement in an entity created to own certain oil and gas assets obtained as a result of the bankruptcy and liquidation of borrower in partial satisfaction of their loan.

Foregone Loan Interest: The following table shows, for those loans accounted for on a nonaccrual basis and restructured loans for the years ended as indicated, the approximate gross interest that would have been recorded if the loans had been current in accordance with their original terms and the amount of interest income that was included in interest income for the period.

Table 12 Foregone Loan Interest

	Years Ended December 31,		
	2016	2015	2014
	($ in Thousands)		
Interest income in accordance with original terms	$ 16,811	$ 11,745	$ 14,259
Interest income recognized	(10,228)	(8,716)	(9,384)
Reduction in interest income	$ 6,583	$ 3,029	$ 4,875

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 briefly in the section entitled "Credit Risk."

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.

The Corporation's allowance for loan losses methodology considers an estimate of the historical loss emergence period (which is the period of time between the event that triggers a loss and the confirmation and / or charge off of that loss), probability of default, and loss given default for each loan portfolio segment. 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." See section, "Nonperforming Assets," for a detailed discussion on asset quality. See also management's allowance for loan losses accounting policy in Note 1 Summary of Significant Accounting Policies and see Note 4 Loans of the notes to consolidated financial statements for additional allowance for loan losses disclosures. Table 7 provides information on loan growth and composition, Tables 13 and 15 provide additional information regarding activity in the allowance for loan losses, and Table 11 provides additional information regarding nonperforming assets.

The methodology used for the allocation of the allowance for loan losses at December 31, 2016, 2015, and 2014 was generally comparable, whereby the Corporation segregated its loss factors (used for both criticized and non-criticized loans) into a component primarily based on historical loss rates and a component primarily based on other qualitative factors that are probable to affect loan collectability. 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, and industry statistics. 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 unrecognized 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. The allocation of the Corporation's allowance for loan losses for the last five years is shown in Table 15.

During the second quarter of 2016, in conjunction with the annual stress testing processes and continual review of the allowance for loan losses methodology, the Corporation further segmented its commercial and industrial loan portfolio into more refined risk categories. Specifically, the Corporation isolated certain mortgage warehouse lines structured as repurchase facilities as we own the underlying mortgage loan; thus, the inherent risk is lower in these transactions. As a result, the loss factors for these mortgage warehouse lines were updated to align more closely with those of similar portfolio mortgage loans, resulting in a $6 million reduction to the allowance for credit losses during the second quarter of 2016.

During 2014, this methodology was enhanced by estimating the loss emergence period using a more granular segmentation approach and by adjusting the multi-year probability of default based on an analysis of the historical portfolio default mix. The impact of this enhancement was not significant.

Table 13 Allowance for Credit Losses

	Years Ended December 31,				
	2016	2015	2014	2013	2012
	($ in Thousands)				
Allowance for Loan Losses:					
Balance at beginning of period	$ 274,264	$ 266,302	$ 268,315	$ 297,409	$ 378,151
Provision for loan losses	69,000	38,000	13,000	10,000	3,000
Loans charged off:					
Commercial and industrial	(71,016)	(27,687)	(14,672)	(35,352)	(44,037)
Commercial real estate — owner occupied	(512)	(2,645)	(3,476)	(6,474)	(4,080)
Commercial and business lending	(71,528)	(30,332)	(18,148)	(41,826)	(48,117)
Commercial real estate — investor	(1,504)	(4,645)	(4,529)	(9,846)	(14,000)
Real estate construction	(558)	(750)	(1,958)	(3,375)	(3,588)
Commercial real estate lending	(2,062)	(5,395)	(6,487)	(13,221)	(17,588)
Total commercial	(73,590)	(35,727)	(24,635)	(55,047)	(65,705)
Residential mortgage	(4,332)	(5,636)	(5,639)	(13,755)	(17,917)
Home equity revolving lines of credit	(3,292)	(4,386)	(6,980)	(10,855)	(18,736)
Home equity loans junior liens	(1,394)	(2,662)	(3,966)	(7,015)	(11,631)
Home equity	(4,686)	(7,048)	(10,946)	(17,870)	(30,367)
Other consumer	(3,831)	(3,869)	(2,876)	(1,389)	(3,057)
Total consumer	(12,849)	(16,553)	(19,461)	(33,014)	(51,341)
Total loans charged off	(86,439)	(52,280)	(44,096)	(88,061)	(117,046)
Recoveries of loans previously charged off:					
Commercial and industrial	14,543	9,821	11,397	29,083	20,262
Commercial real estate — owner occupied	74	921	1,806	339	453
Commercial and business lending	14,617	10,742	13,203	29,422	20,715
Commercial real estate — investor	1,624	4,157	9,996	6,961	4,796
Real estate construction	203	2,268	816	5,511	2,129
Commercial real estate lending	1,827	6,425	10,812	12,472	6,925
Total commercial	16,444	17,167	24,015	41,894	27,640
Residential mortgage	755	1,077	1,252	1,332	590
Home equity revolving lines of credit	2,090	2,093	2,226	2,995	2,725
Home equity loans junior liens	1,401	1,140	974	1,113	1,115
Home equity	3,491	3,233	3,200	4,108	3,840
Other consumer	820	765	616	1,633	1,234
Total consumer	5,066	5,075	5,068	7,073	5,664
Total recoveries	21,510	22,242	29,083	48,967	33,304
Net charge offs	(64,929)	(30,038)	(15,013)	(39,094)	(83,742)
Balance at end of period	$ 278,335	$ 274,264	$ 266,302	$ 268,315	$ 297,409
Allowance for Unfunded Commitments:					
Balance at beginning of period	$ 24,400	$ 24,900	$ 21,900	$ 21,800	$ 14,700
Provision for unfunded commitments	1,000	(500)	3,000	100	7,100
Balance at end of period	$ 25,400	$ 24,400	$ 24,900	$ 21,900	$ 21,800
Allowance for credit losses[(A)]	$ 303,735	$ 298,664	$ 291,202	$ 290,215	$ 319,209
Provision for credit losses[(B)]	$ 70,000	$ 37,500	$ 16,000	$ 10,100	$ 10,100

Table 13 Allowance for Credit Losses (continued)

	Years Ended December 31,				
	2016	2015	2014	2013	2012
	($ in Thousands)				
Net loan (charge offs) recoveries:					
Commercial and industrial	$ (56,473)	$ (17,866)	$ (3,275)	$ (6,269)	$ (23,775)
Commercial real estate — owner occupied	(438)	(1,724)	(1,670)	(6,135)	(3,627)
Commercial and business lending	(56,911)	(19,590)	(4,945)	(12,404)	(27,402)
Commercial real estate — investor	120	(488)	5,467	(2,885)	(9,204)
Real estate construction	(355)	1,518	(1,142)	2,136	(1,459)
Commercial real estate lending	(235)	1,030	4,325	(749)	(10,663)
Total commercial	(57,146)	(18,560)	(620)	(13,153)	(38,065)
Residential mortgage	(3,577)	(4,559)	(4,387)	(12,423)	(17,327)
Home equity revolving lines of credit	(1,202)	(2,293)	(4,754)	(7,860)	(16,011)
Home equity loans junior liens	7	(1,522)	(2,992)	(5,902)	(10,516)
Home equity	(1,195)	(3,815)	(7,746)	(13,762)	(26,527)
Other consumer	(3,011)	(3,104)	(2,260)	244	(1,823)
Total consumer	(7,783)	(11,478)	(14,393)	(25,941)	(45,677)
Total net charge offs	$ (64,929)	$ (30,038)	$ (15,013)	$ (39,094)	$ (83,742)
Ratios:					
Allowance for loan losses to total loans	1.39%	1.47%	1.51%	1.69%	1.93%
Allowance for loan losses to net charge offs	4.3x	9.1x	17.7x	6.9x	3.6x

(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 14 Net (Charge Offs) Recoveries (A)

	Years Ended December 31,				
(in basis points)	2016	2015	2014	2013	2012
Net loan (charge offs) recoveries:					
Commercial and industrial	(87)	(29)	(6)	(13)	(59)
Commercial real estate — owner occupied	(5)	(18)	(16)	(53)	(33)
Commercial and business lending	(77)	(28)	(8)	(21)	(53)
Commercial real estate — investor	N\M	(2)	18	(10)	(33)
Real estate construction	(3)	14	(12)	27	(25)
Commercial real estate lending	N\M	2	11	(2)	(32)
Total commercial	(47)	(16)	(1)	(14)	(45)
Residential mortgage	(6)	(8)	(9)	(27)	(39)
Home equity revolving lines of credit	(14)	(26)	(54)	(88)	(159)
Home equity loans junior liens	1	(107)	(160)	(250)	(344)
Home equity	(12)	(37)	(73)	(122)	(202)
Other consumer	(74)	(72)	(53)	6	(36)
Total consumer	(10)	(16)	(23)	(42)	(73)
Total net charge offs	(33)	(16)	(9)	(25)	(57)

(A) Ratio of net charge offs to average loans by loan type.
N/M = Not Meaningful

At December 31, 2016, the allowance for credit losses was $304 million, compared to $299 million at December 31, 2015. At December 31, 2016, the allowance for loan losses to total loans was 1.39% and covered 101% of nonaccrual loans, compared to 1.47% and 154%, respectively, at December 31, 2015. Management believes the level of allowance for loan losses to be appropriate at December 31, 2016 and December 31, 2015.

Key contributors to the increase in the allowance for credit losses and the related provision for credit losses during December 31, 2016 were:

- At December 31, 2016, net charge offs of $65 million increased $35 million from the comparable period in December 31, 2015, primarily due to the $59 million of charge offs on three large oil and gas related credits. See Table 13, 14 and 15 for additional information regarding the activity in the allowance for loan losses.

- Total loans increased $1.3 billion (7%) from December 31, 2015, including a $611 million (14%) increase in commercial real estate lending, a $452 million (6%) increase in total consumer and a $278 million (4%) increase in commercial and business 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.

- Total nonaccrual loans increased $97 million from December 31, 2015 primarily due to the risk migration of oil and gas related credits. See Table 8 for additional information on the oil and gas portfolio. See also Note 4 Loans of the notes to consolidated financial statements and section “Nonperforming Assets” for additional disclosures on the changes in asset quality.

- Potential problem loans increased $49 million from December 31, 2015, primarily due to the risk migration on general commercial loans. See Table 11 for additional information on the changes in potential problem loans.

- The allowance for loan losses attributable to oil and gas related credits (included within the commercial and industrial allowance for loan losses) was $38 million at December 31, 2016, compared to $42 million at December 31, 2015. See also oil and gas lending within the "Credit Risk" section for additional information.

- The allowance for unfunded commitments of $25 million increased $1 million from December 31, 2015, driven by risk rating migration and new volumes.

Table 15 Allocation of the Allowance for Loan Losses

	As of December 31,									
	2016		2015		2014		2013		2012	
	($ in Thousands)									
		(A)		(A)		(A)		(A)		(A)
Commercial and industrial	$ 140,126	2.16%	$ 129,959	2.10%	$ 117,635	1.97%	$ 106,108	2.18%	$ 100,876	2.21%
Commercial real estate — owner occupied	14,034	1.56%	18,680	2.03%	16,510	1.64%	19,476	1.75%	27,389	2.25%
Commercial and business lending	154,160	2.09%	148,639	2.09%	134,145	1.93%	125,584	2.10%	128,265	2.22%
Commercial real estate — investor	45,285	1.27%	43,018	1.33%	46,333	1.52%	58,156	1.98%	63,181	2.17%
Real estate construction	26,932	1.88%	25,266	2.17%	20,999	2.08%	23,418	2.61%	20,741	3.16%
Commercial real estate lending	72,217	1.44%	68,284	1.55%	67,332	1.66%	81,574	2.13%	83,922	2.36%
Total commercial	226,377	1.83%	216,923	1.89%	201,477	1.83%	207,158	2.11%	212,187	2.27%
Residential mortgage	27,046	0.43%	28,261	0.49%	31,926	0.63%	30,809	0.67%	38,861	0.89%
Home equity	20,364	2.18%	23,555	2.34%	26,464	2.52%	27,932	2.58%	42,062	3.49%
Other consumer	4,548	1.15%	5,525	1.32%	6,435	1.42%	2,416	0.59%	4,299	0.92%
Total consumer	51,958	0.68%	57,341	0.80%	64,825	0.99%	61,157	1.01%	85,222	1.41%
Total allowance for loan losses	$ 278,335	1.39%	$ 274,264	1.47%	$ 266,302	1.51%	$ 268,315	1.69%	$ 297,409	1.93%

(A) Allowance for loan losses category as a percentage of total loans by category.

Consolidated net income and stockholders' equity could be affected if management's estimate of the allowance for loan losses is subsequently materially different, requiring additional or less provision for loan losses to be recorded. Management carefully considers numerous detailed and general factors, its assumptions, and the likelihood of materially different conditions that could alter its assumptions. While management uses currently available information to recognize losses on loans, future adjustments to the allowance for loan losses may be necessary based on newly received appraisals, updated commercial customer financial statements, rapidly deteriorating customer cash flow, and changes in economic conditions that affect our customers. Additionally, larger credit relationships do not inherently create more risk, but can create wider fluctuations in net charge offs and asset quality measures. As an integral part of their examination process, various federal and state regulatory agencies also review the allowance for loan losses. These agencies may require additions to the allowance for loan losses or may require that certain loan balances be charged off or downgraded into criticized loan categories when their credit evaluations differ from those of management, based on their judgments about information available to them at the time of their examination.

Investment Securities Portfolio

Management of the investment securities portfolio involves the maximization of income while actively monitoring the portfolio's liquidity, market risk, quality of the investment securities, and its role in balance sheet and capital management. The Corporation classifies its investment securities as available for sale or held to maturity at time of purchase. Securities classified as available for sale may be sold from time to time in order to help manage interest rate risk, liquidity, credit quality, capital levels, or to take advantage of relative value opportunities in the marketplace. Investment securities classified as available for sale are carried at fair value in the consolidated balance sheets, while investment securities classified as held to maturity are carried at amortized cost in the consolidated balance sheets. The majority of the Corporation's investment securities are mortgage-related securities issued by the Government National Mortgage Association ("GNMA") or GSEs such as the Federal National Mortgage Association ("FNMA") and the Federal Home Loan Mortgage Corporation ("FHLMC").

Table 16 Investment Securities Portfolio

	At December 31,					
	2016	% of Total	2015	% of Total	2014	% of Total
	($ in Thousands)					
Investment Securities Available for sale:						
Amortized Cost:						
U.S. Treasury securities	$ 1,000	<1%	$ 999	<1%	$ 999	<1%
Obligations of state and political subdivisions (municipal securities)	—	—	—	—	560,839	10
Residential mortgage-related securities:						
FNMA / FHLMC	625,234	13	1,388,995	28	3,534,240	66
GNMA	2,028,301	43	1,605,956	32	165,863	3
Private-label	1,134	<1	1,722	<1	2,297	<1
GNMA commercial mortgage-related securities	2,064,508	44	1,982,477	40	1,097,913	20
Other securities (debt and equity)	4,718	<1	4,718	<1	6,108	<1
Total amortized cost	$ 4,724,895	100%	$ 4,984,867	100%	$ 5,368,259	100%
Fair Value:						
U.S. Treasury securities	$ 1,000	<1%	$ 997	<1%	$ 998	<1%
Municipal securities	—	—	—	—	582,679	11
Residential mortgage-related securities:						
FNMA / FHLMC	639,930	14	1,414,626	28	3,563,457	66
GNMA	2,004,475	43	1,590,003	32	167,332	3
Private-label	1,121	<1	1,709	<1	2,294	<1
GNMA commercial mortgage-related securities	2,028,898	43	1,955,310	39	1,073,893	20
Other securities (debt and equity)	4,802	<1	4,769	<1	6,159	<1
Total fair value and carrying value	$ 4,680,226	100%	$ 4,967,414	100%	$ 5,396,812	100%
Net unrealized holding gains (losses)	$ (44,669)		$ (17,453)		$ 28,553	
Investment Securities Held to maturity:						
Amortized Cost:						
Municipal securities	$ 1,145,843	90%	$ 1,043,767	89%	$ 404,455	100%
Residential mortgage-related securities:						
FNMA / FHLMC	37,697	3%	41,469	4%	—	—%
GNMA	89,996	7%	82,994	7%	—	—%
Total amortized cost and carrying value	$ 1,273,536	100%	$ 1,168,230	100%	$ 404,455	100%
Fair Value:						
Municipal securities	$ 1,137,675	90%	$ 1,060,231	90%	$ 413,067	100%
Residential mortgage-related securities:						
FNMA / FHLMC	37,443	3%	41,337	3%	—	—%
GNMA	89,556	7%	82,874	7%	—	—%
Total fair value	$ 1,264,674	100%	$ 1,184,442	100%	$ 413,067	100%
Net unrealized holding gains (losses)	$ (8,862)		$ 16,212		$ 8,612	

At December 31, 2016, the Corporation's investment securities portfolio did not contain securities of any single issuer that were payable from and secured by the same source of revenue or taxing authority where the aggregate carrying value of such securities exceeded 5% of stockholders' equity or approximately $155 million.

The Corporation did not recognize any credit-related other-than-temporary impairment write-downs during 2016, 2015, or 2014. See Note 1 Summary of Significant Accounting Policies for management's accounting policy for

investment securities and Note 3 Investment Securities of the notes to consolidated financial statements for additional investment securities disclosures.

Available for Sale

Residential and Commercial Mortgage-related Securities: At December 31, 2016 and 2015, residential mortgage-related securities (which include predominantly mortgage-backed securities and collateralized mortgage obligations) represented 57% and 60%, respectively of total available for sale investment securities based on fair value, while at December 31, 2016, GNMA commercial mortgage-related securities were 43% of total available for sale investment securities compared to 39% of total available for sale investment securities at December 31, 2015. The fair value of mortgage-related securities is subject to inherent risks based upon the future performance of the underlying collateral (i.e. mortgage loans) for these securities, such as prepayment risk and interest rate changes. The Corporation regularly assesses valuation and credit quality underlying these securities.

Other Securities (Debt and Equity): At both December 31, 2016 and 2015, other securities were $5 million, and were primarily comprised of debt securities. Debt securities primarily mature within 3 years and have a rating of A.

Held to Maturity

Municipal Securities: The municipal securities relate to various state and political subdivisions and school districts. The municipal securities portfolio is regularly assessed for credit quality and deterioration.

Residential Mortgage-related Securities: The residential mortgage-related securities in held to maturity were comprised of select Community Reinvestment Act mortgage-related securities.

Regulatory Stock (Federal Home Loan Bank "FHLB" and Federal Reserve System)

In addition to the available for sale and held to maturity investment securities noted above, the Corporation is also required to hold certain regulatory stock. 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. See Note 3 Investment Securities of the notes to consolidated financial statements for additional information on the regulatory stock.

TABLE 17 Investment Securities Portfolio Maturity Distribution [1]

	December 31, 2016		
	Amortized Cost	Fair Value	Yield [2]
Available for sale securities	($ in Thousands)		
U. S. Treasury securities:			
Within one year	$ 1,000	$ 1,000	0.67%
Total U. S. Treasury securities	$ 1,000	$ 1,000	0.67%
Residential mortgage-related securities:			
Within one year	$ 25,115	$ 25,314	3.48%
After one but within five years	1,853,225	1,850,807	2.37%
After five years but within ten years	775,203	768,208	2.15%
After ten years	1,126	1,197	3.68%
Total Residential mortgage-related securities	$ 2,654,669	$ 2,645,526	2.31%
GNMA commercial mortgage-related securities:			
Within one year	$ 17,306	$ 17,275	1.57%
After one but within five years	1,273,257	1,262,548	2.01%
After five years but within ten years	773,945	749,075	2.03%
Total GNMA commercial mortgage-related securities	$ 2,064,508	$ 2,028,898	2.01%
Other debt and equity securities:			
Within one year	$ 3,500	$ 3,479	1.32%
After one but within five years	1,200	1,200	2.18%
Marketable equity securities	18	123	—%
Total Other debt and equity securities	$ 4,718	$ 4,802	1.54%
Total available for sale securities	$ 4,724,895	$ 4,680,226	2.18%
Held to maturity securities			
Municipal securities:			
Within one year	$ 38,791	$ 28,517	4.18%
After one but within five years	257,652	264,427	5.15%
After five years but within ten years	229,063	229,364	3.95%
After ten years	620,337	615,367	4.26%
Total Municipal securities	$ 1,145,843	$ 1,137,675	4.40%
Residential mortgage-related securities:			
Within one year	$ 308	$ —	3.11%
After one but within five years	30,143	30,311	2.65%
After five years but within ten years	42,907	42,734	2.85%
After ten years	54,335	53,954	3.07%
Total Residential mortgage-related securities	$ 127,693	$ 126,999	2.90%
Total held to maturity securities	$ 1,273,536	$ 1,264,674	4.25%

(1) Expected maturities will differ from contractual maturities, as borrowers may have the right to call or repay obligations with or without call or prepayment penalties.

(2) Yields on tax-exempt securities are computed on a fully tax-equivalent basis using a tax rate of 35% and have not been adjusted for certain disallowed interest deductions.

ANALYSIS OF DEPOSITS AND FUNDING

Deposits and Customer Funding

The following table summarizes the composition of our deposits and customer funding at December 31, 2016 and 2015.

Table 18 Period End Deposit and Customer Funding Composition

	As of December 31,	
	2016	2015
	($ in Thousands)	
Noninterest-bearing demand	$ 5,392,208	$ 5,562,466
Savings	1,431,494	1,334,420
Interest-bearing demand	4,687,656	3,445,000
Money market	8,770,963	9,102,977
Brokered CDs	52,725	42,443
Other time	1,553,402	1,520,359
Total deposits	21,888,448	21,007,665
Customer repo sweeps	300,197	383,568
Total deposits and customer funding	$ 22,188,645	$ 21,391,233
Network transaction deposits included above in interest-bearing demand & money market	$ 3,895,467	$ 3,174,911
Brokered CDs	52,725	42,443
Total network and brokered funding	3,948,192	3,217,354
Net customer deposits and funding (1)	$ 18,240,453	$ 18,173,879

(1) Total deposits and customer funding excluding total network and brokered funding.

- Non-maturity deposit accounts, comprised of savings, money market, and demand (both interest and non-interest bearing demand) accounts accounted for 93% of our total deposits at December 31, 2016.
- Included in the above amounts were $3.9 billion of network deposits, primarily sourced from other financial institutions and intermediaries. Network deposits represented 18% of our deposits at December 31, 2016.

Table 19 Maturity Distribution-Certificates of Deposit and Other Time Deposits of $100,000 or More

	As of December 31, 2016		
	Certificates of Deposit	Other Time Deposits	Total Certificates of Deposits and Other Time Deposits
		($ in Thousands)	
Three months or less	$ 114,308	$ 86,965	$ 201,273
Over three months through six months	30,361	34,639	65,000
Over six months through twelve months	46,416	29,596	76,012
Over twelve months	203,966	24,883	228,849
Total	$ 395,051	$ 176,083	$ 571,134

- Deposits are the Corporation's largest source of funds. Selected period-end deposit information is detailed in Note 7 Deposits of the notes to consolidated financial statements, including a maturity distribution of all time deposits at December 31, 2016. See Table 2 for additional information on average deposit balances and deposit rates.

Other Funding Sources

Short-term funding: Short-term funding is comprised primarily of short-term FHLB advances; securities sold under agreements to repurchase; Federal funds purchased and commercial paper. Many short-term funding sources, particularly Federal funds purchased and securities sold under agreements to repurchase, are expected to be reissued and, therefore, do not represent an immediate need for cash. See Note 8 Short-Term Funding of the notes to consolidated financial statements for additional information on short-term funding. See Table 2 for additional information on average funding and rates.

- Short-term funding sources at December 31, 2016 were approximately $1.1 billion, an increase of $258 million from December 31, 2015. The increase in short-term funding was primarily due to increases in FHLB advances and federal funds purchased.

Long-term funding: Long-term funding is comprised primarily of long-term FHLB advances, senior notes and subordinated notes. See Note 9 Long-Term Funding of the notes to consolidated financial statements for additional information on long-term funding. See Table 2 for additional information on average funding and rates.

- Long-term funding at December 31, 2016, was approximately $2.8 billion, an increase of $85 million from December 31, 2015, primarily due to a $515 million increase in long-term FHLB advances, partially offset by the redemption of $430 million in senior notes in February 2016.

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 current industry 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 December 31, 2016, 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:

- 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 3 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 December 31, 2016, the Bank had $2.8 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 December 31, 2016, the Bank had $2.1 billion available for discount window borrowings.

- The Parent Company has a $200 million commercial paper program, of which $102 million was outstanding at December 31, 2016.

- Dividends and service fees from subsidiaries, as well as the proceeds from issuance of capital are also 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, depositary shares, common stock, and warrants.

- The Bank may also issue institutional certificates of deposit, network transaction deposits, and brokered certificates of deposit.

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 the Bank at December 31, 2016 are displayed below.

Table 20 Credit Ratings

	Moody's	S&P*
Associated Bank short-term deposits	P-1	—
Associated Bank long-term	A1	BBB+
Corporation short-term	P-2	—
Corporation long-term	Baa1	BBB
Outlook	Negative	Stable

* - Standard and Poor's

For the year ended December 31, 2016, net cash provided by operating and financing activities was $629 million and $1.2 billion, respectively, while investing activities used net cash of $1.6 billion, for a net increase in cash and cash equivalents of $169 million since year-end 2015. During 2016, net assets increased to $29.1 billion (up $1.4 billion or 5%) compared to year-end 2015, primarily due to a $1.7 billion net increase in loans. On the funding side, deposits increased $881 million and both short-term and long-term funding increased $258 million and $85 million, respectively.

For the year ended December 31, 2015, net cash provided by operating and financing activities was $302 million and $674 million, respectively, while investing activities used net cash of $1.5 billion, for a net decrease in cash and cash equivalents of $558 million since year-end 2014. During 2015, net assets increased to $27.7 billion (up $894 million or 3%) compared to year-end 2014, primarily due to a $1.1 billion net increase in loans. On the funding side, deposits increased $2.2 billion while short-term and long-term funding decreased $234 million and $1.3 billion, respectively.

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 Asset / Liability Committee ("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 our risk appetite for interest rate risk over both short-term and long-term horizons. No limit breaches occurred during 2016.

The major sources of our 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, as described in additional detail below, are employed by management to understand net interest income (NII) at risk, interest rate sensitive earnings at risk (EAR), and market value of equity (MVE) at risk. These measures show that our interest rate risk profile was asset sensitive at December 31, 2016, albeit slightly less sensitive than last year.

MVE and EAR are complementary interest rate risk metrics and should be viewed together. Net interest income and EAR sensitivity capture asset and liability re-pricing mismatches for the first year inclusive of forecast balance sheet changes and are considered shorter term measures, while MVE sensitivity captures mismatches within the period end balance sheets through the financial instruments' respective maturities and is considered a longer term measure.

A positive NII and EAR sensitivity in a rising rate environment indicates that over the forecast horizon of one year, asset based income will increase more quickly than liability based expense due to the balance sheet composition. A negative MVE sensitivity in a rising rate environment indicates that the value of financial assets will decrease more than the value of financial liabilities.

One of the primary methods that we use to quantify and manage interest rate risk is simulation analysis, which we use to model NII and rate sensitive noninterest items from the Corporation's balance sheet and derivative positions under various interest rate scenarios. As the future path of interest rates is not known with certainty, we use simulation analysis to project rate sensitive income under many scenarios including implied forward and deliberately extreme and perhaps unlikely scenarios. The analyses may include rapid and gradual ramping of interest rates, rate shocks, basis risk analysis, and yield curve twists. Specific balance sheet management strategies are also analyzed to determine their impact on NII and EAR.

Key assumptions in the simulation analysis (and in the valuation analysis discussed below) relate to the behavior of interest rates and pricing spreads, the changes in product balances, and the behavior of loan and deposit clients in different rate environments. This analysis incorporates several assumptions, the most material of which relate to the re-pricing characteristics and balance fluctuations of deposits with indeterminate or non-contractual maturities, and prepayment of loans and securities.

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. Estimated changes set forth below are dependent upon material assumptions such as those previously discussed. 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 21 Estimated % Change in Rate Sensitive Earnings at Risk (EAR) Over 12 Months

	Dynamic Forecast December 31, 2016	Static Forecast December 31, 2016	Dynamic Forecast December 31, 2015	Static Forecast December 31, 2015
Instantaneous Rate Change				
100 bp increase in interest rates	1.4%	1.5%	1.6%	2.1%
200 bp increase in interest rates	2.7%	2.9%	3.0%	4.4%

We also perform valuation analysis, which we use for discerning levels of risk present in the balance sheet and derivative positions that might not be taken into account in the NII simulation analysis. Whereas NII and EAR simulation highlights exposures over a relatively short time horizon, valuation analysis incorporates all cash flows over the estimated remaining life of all balance sheet and derivative positions. The valuation of the balance sheet, at a point in time, is defined as the discounted present value of all asset cash flows and derivative cash flows minus the discounted present value of all liability cash flows, the net of which is referred to as MVE. The sensitivity of MVE to changes in the level of interest rates is a measure of the longer-term re-pricing risk and options risk embedded in the balance sheet. Similar to the NII simulation, MVE uses instantaneous changes in rates. However, MVE values only the current balance sheet and does not incorporate the growth assumptions that are used in the NII and EAR simulations. As with NII and EAR simulations, assumptions about the timing and variability of balance sheet cash flows are critical in the MVE analysis. Particularly important are the assumptions driving prepayments and the expected changes in balances and pricing of the indeterminate deposit portfolios. At December 31, 2016, 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 22 Market Value of Equity Sensitivity

	December 31, 2016	December 31, 2015
Instantaneous Rate Change		
100 bp increase in interest rates	(2.9)%	(1.7)%
200 bp increase in interest rates	(6.0)%	(3.7)%

The decrease in MVE sensitivity from December 31, 2015 was primarily attributable to the duration of mortgage-related assets extending. 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, we believe 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 changing 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 23 Contractual Obligations and Other Commitments

December 31, 2016	Note Reference	One Year or Less	One to Three Years	Three to Five Years	Over Five Years	Total
			($ in Thousands)			
Time deposits	7	$ 932,179	$ 462,107	$ 208,560	$ 3,281	$ 1,606,127
Short-term funding	8	1,092,035	—	—	—	1,092,035
Long-term funding	9	5	2,363,939	150,164	247,687	2,761,795
Operating leases	6	9,711	18,780	15,469	20,940	64,900
Commitments to extend credit	16	4,086,294	2,744,344	1,426,089	159,749	8,416,476
Total		$ 6,120,224	$ 5,589,170	$ 1,800,282	$ 431,657	$ 13,941,333

Through the normal course of operations, the Corporation has entered into certain contractual obligations and other commitments, including but not limited to those most usually related to funding of operations through deposits or funding, commitments to extend credit, derivative contracts to assist management of interest rate exposure, and to a lesser degree leases for premises and equipment. Table 23 summarizes significant contractual obligations and other commitments at December 31, 2016, and those amounts contractually due to the recipient, including any unamortized premiums or discounts, hedge basis adjustments, or other similar carrying value adjustments. Further discussion of the nature of each obligation is included in the referenced note to the consolidated financial statements.

The Corporation also has obligations under its retirement plans as described in Note 12 Retirement Plan of the notes to consolidated financial statements.

As of December 31, 2016, the net liability for uncertainty in income taxes, including associated interest and penalties, was $8 million. This liability represents an estimate of tax positions that the Corporation has taken in its tax returns which may ultimately not be sustained upon examination by the tax authorities. Since the ultimate amount and timing of any future cash settlements cannot be predicted with reasonable certainty, this estimated liability has been excluded from Table 23. See Note 13 Income Taxes of the notes to consolidated financial statements for additional information and disclosure related to uncertainty in income taxes.

The Corporation may have a variety of financial transactions that, under GAAP, are either not recorded on the balance sheet or are recorded on the balance sheet in amounts that differ from the full contract or notional amounts.

The Corporation routinely enters into lending-related commitments, including commitments to extend credit, interest rate lock commitments to originate residential mortgage loans held for sale (discussed further below), commercial letters of credit, and standby letters of credit. See Note 16 Commitments, Off-Balance Sheet Arrangements, and Legal Proceedings of the notes to consolidated financial statements for further information on lending-related commitments.

The Corporation's derivative financial instruments, under which the Corporation is required to either receive cash from or pay cash to counterparties depending on changes in interest rates applied to notional amounts, are carried at fair value on the consolidated balance sheets. Because neither the derivative assets and liabilities, nor their notional amounts, represent the amounts that may ultimately be paid under these contracts, they are not included in Table 23. For further information and discussion of derivative contracts, see Note 1 Summary of Significant Accounting Policies and Note 14 Derivative and Hedging Activities of the notes to consolidated financial statements.

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 our usual underwriting procedures, and are most often sold on a nonrecourse basis primarily to the GSEs. See Note 16

Commitments, Off-Balance Sheet Arrangements, and Legal Proceedings of the notes to consolidated financial statements for additional information on residential mortgage loans sold.

The Corporation has principal investment commitments to provide capital-based financing to private and public companies and also invests in low-income housing, and various credit projects. See Note 16 Commitments, Off-Balance Sheet Arrangements, and Legal Proceedings of the notes to consolidated financial statements for additional information on these investments. The Volcker Rule prohibits insured depository institutions and their holding companies from engaging in proprietary trading except in limited circumstances, and prohibits them from owning equity interests in excess of three percent of Tier 1 Capital in private equity and hedge funds. Complying with the Volcker Rule is not expected to have a material impact on the Corporation. See Part I, Item 1, "Business," for additional information on the Volcker Rule.

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 December 31, 2016, the capital ratios of the Corporation and its banking subsidiary were in excess of regulatory minimum requirements. The Corporation's capital ratios are summarized in Table 24.

Table 24 Capital Ratios

	As of December 31,		
	2016	2015	2014
		($ in Thousands)	
Risk-based Capital [1]			
Common equity Tier 1	$ 2,032,587	$ 1,897,944	$ 1,808,332
Tier 1 capital	2,191,798	2,016,861	1,868,059
Total capital	2,706,760	2,515,861	2,350,898
Total risk-weighted assets	21,340,951	19,929,963	18,567,646
Common equity Tier 1 capital ratio	9.52%	9.52%	9.74%
Tier 1 capital ratio	10.27%	10.12%	10.06%
Total capital ratio	12.68%	12.62%	12.66%
Tier 1 leverage ratio	7.83%	7.60%	7.48%
Selected Equity and Performance Ratios			
Total stockholders' equity / assets	10.61%	10.60%	10.44%
Dividend payout ratio [2]	35.43%	34.17%	31.62%

(1) The Federal Reserve establishes regulatory capital requirements, including well-capitalized standards for the Corporation. Prior to 2015, the regulatory capital requirements effective for the Corporation followed the Capital Accord of the Basel Committee on Banking Supervision ("Basel I"). Beginning January 1, 2015, the regulatory capital requirements effective for the Corporation follow 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 our capital with the capital of other financial services companies. See Table 25 for a reconciliation of common equity Tier 1 and average common equity Tier 1.

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

Table 25 Non-GAAP Measures

	At or for the Year Ended December 31,				
	2016	2015	2014	2013	2012
	($ in Thousands)				
Selected Equity and Performance Ratios [1] [2]					
Tangible common equity / tangible assets	6.91%	6.85%	6.97%	8.11%	8.56%
Return on average equity	6.63%	6.50%	6.63%	6.52%	6.07%
Return on average tangible common equity	10.07%	9.97%	9.91%	9.73%	8.96%
Return on average Common equity Tier 1	9.86%	9.88%	9.92%	9.77%	9.45%
Return on average assets	0.70%	0.70%	0.76%	0.81%	0.81%
Average stockholders' equity / average assets	10.60%	10.72%	11.44%	12.41%	13.42%
Tangible Common Equity and Common Equity Tier 1 Reconciliation [1] [2]					
Common equity	$ 2,931,383	$ 2,815,867	$ 2,740,524	$ 2,829,428	$ 2,873,127
Goodwill and other intangible assets, net	(987,328)	(985,302)	(936,605)	(940,352)	(944,395)
Tangible common equity	$ 1,944,055	$ 1,830,565	$ 1,803,919	$ 1,889,076	$ 1,928,732
Less: Accumulated other comprehensive income / loss	54,679	32,616	4,850	24,244	(48,603)
Less: Deferred tax assets / deferred tax liabilities, net	33,853	34,763	(437)	—	(4,595)
Common equity Tier 1	$ 2,032,587	$ 1,897,944	$ 1,808,332	$ 1,913,320	$ 1,875,534
Tangible Assets Reconciliation [1]					
Total assets	$ 29,139,315	$ 27,711,835	$ 26,817,423	$ 24,225,426	$ 23,485,147
Goodwill and other intangible assets, net	(987,328)	(985,302)	(936,605)	(940,352)	(944,395)
Tangible assets	$ 28,151,987	$ 26,726,533	$ 25,880,818	$ 23,285,074	$ 22,540,752
Average Tangible Common Equity and Average Common Equity Tier 1 Reconciliation [1] [2]					
Average common equity	$ 2,888,579	$ 2,799,150	$ 2,810,872	$ 2,829,300	$ 2,885,715
Average goodwill and other intangible assets, net	(988,406)	(982,454)	(938,472)	(942,472)	(946,602)
Average tangible common equity	1,900,173	1,816,696	1,872,400	1,886,828	1,939,113
Less: Accumulated other comprehensive income / loss	7,526	(9,059)	(1,651)	(2,712)	(69,675)
Less: Deferred tax assets / deferred tax liabilities, net	32,692	25,960	(140)	(5,745)	(31,014)
Average common equity Tier 1	$ 1,940,391	$ 1,833,597	$ 1,870,609	$ 1,878,371	$ 1,838,424
Efficiency Ratio Reconciliation [3]					
Federal Reserve efficiency ratio	66.95 %	69.96 %	70.28 %	71.14 %	73.21 %
Fully tax-equivalent adjustment	(1.29)%	(1.41)%	(1.36)%	(1.45)%	(1.59)%
Other intangible amortization	(0.20)%	(0.31)%	(0.39)%	(0.42)%	(0.44)%
Fully tax-equivalent efficiency ratio	65.46 %	68.24 %	68.53 %	69.27 %	71.18 %

(1) 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.

(2) The Federal Reserve establishes regulatory capital requirements, including well-capitalized standards for the Corporation. Prior to 2015, the regulatory capital requirements effective for the Corporation followed the Capital Accord of the Basel Committee on Banking Supervision ("Basel I"). Beginning January 1, 2015, the regulatory capital requirements effective for the Corporation follow 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 our capital with the capital of other financial services companies.

(3) 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.

During 2016, the Corporation repurchased over 1 million shares of common stock for $20 million or an average cost of $17.10 per share, and repurchased $93 million, or approximately 5 million shares of common stock, at an average cost of $18.73 per share during 2015. On September 15, 2016, the Corporation completed the issuance of 4 million depositary shares each representing a 1/40th interest in a share of 5.375% Non-Cumulative Perpetual Preferred Stock, Series D, for net proceeds of $97 million. In addition, on September 15, 2016, the Corporation redeemed all remaining depositary shares (2.4 million shares) each representing a 1/40th interest in a share of the 8.00% Non-Cumulative Perpetual Preferred Series B Stock for $59 million. See Note 10 Stockholders' Equity for additional capital disclosures. 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.

Segment Review

As discussed in Note 21 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 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 was compiled utilizing the accounting policies described in Note 1 Summary of Significant Accounting Policies and Note 21 Segment Reporting of the notes to consolidated financial statements. During 2015, certain organizational and methodology changes were made and, accordingly, 2014 results have been restated and presented on a comparable basis, except as noted in Note 21 Segment Reporting of the notes to consolidated financial statements for the enhanced Funds Transfer Pricing ("FTP") methodology implemented during 2015.

FTP is an important tool for managing the Corporation's balance sheet structure and measuring risk-adjusted profitability. By appropriately allocating the cost of funding and contingent liquidity to business units, the FTP process improves product pricing which influences the volume and terms of new business and helps to optimize the risk / reward profile of the balance sheet. This process helps align the Corporation's funding and contingent liquidity risk with its risk appetite and complements broader liquidity and interest rate risk management programs. FTP methodologies are designed to promote more resilient, sustainable business models and centralize the management of funding and contingent liquidity risks. Through FTP, the Corporation transfers these risks to a central management function that can take advantage of natural off-sets, centralized hedging activities, and a broader view of these risks across business units.

Segment Review 2016 Compared to 2015

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. The Corporate and Commercial Specialty segment had net income of $118 million in 2016, up $4 million compared to $114 million in 2015. Segment revenue increased $20 million to $376 million in 2016 compared to $357 million in 2015, primarily due to higher net interest income from the growth in average loan balances and the interest rate increase at the end of 2015. The credit provision increased $8 million in 2016 due to loan growth and a decrease in loan credit quality in the oil and gas portfolio. Average loan balances were $10.2

billion for 2016, up $795 million from an average balance of $9.4 billion for 2015. Average allocated capital increased $93 million to $1.1 billion in 2016, reflecting the increase in segment's loan balances.

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. The Community, Consumer, and Business segment had net income of $66 million in 2016, up $3 million compared to $63 million in 2015. Segment revenue increased $14 million to $628 million in 2016, primarily due to a $7 million increase in insurance commissions, a $6 million increase in mortgage banking income, partially offset by a $2 million decrease in trust service fees. Noninterest expense increased $10 million to $502 million in 2016, primarily due to increased severance relating to the restructuring of the Corporation's commercial and business lending areas. Average loan balances were $9.3 billion for 2016, up $498 million from an average balance of $8.8 billion for 2015. Average deposit balances were $11.5 billion in 2016, up $553 million from average deposits of $10.9 billion in 2015. Average allocated capital decreased $11 million to $630 million in 2016.

The Risk Management and Shared Services segment had net income of $16 million in 2016, up $4 million compared to $12 million in 2015. Net interest income increased $11 million primarily due to an increase in the volume of funding provided to the Corporate and Commercial Specialty segment (as loan growth exceeded deposit growth within this segment), as well as a higher interest rate charged on this funding due to the interest rate increase at the end of 2015. Noninterest income increased $10 million primarily due to an increase in proceeds from BOLI policy redemptions of $5 million and an increase in net gains on the sale of assets of $4 million. The credit provision improved $25 million. Average earning asset balances were $6.5 billion for 2016, up $162 million from an average balance of $6.4 billion in 2015, primarily due to increases in commercial and business lending and investment securities. Average deposits were $3.6 billion in 2016, up $502 million from 2015. Average allocated capital increased $24 million to $240 million for 2016.

Segment Review 2015 Compared to 2014

The Corporate and Commercial Specialty segment had net income of $114 million in 2015, up $13 million compared to $101 million in 2014, primarily due to changes in the long-term funding rates utilized in the FTP methodology for allocating interest credits. During 2015, the Corporation adopted an enhanced FTP methodology to better reflect the long-term value provided by a stable deposit funding base which resulted in an additional $10 million in allocated net interest income for 2015. Segment revenue increased $11 million to $357 million in 2015 compared to $346 million in 2014 primarily due to growth in average loan balances, partially offset by lower spreads on loan products. The credit provision decreased $5 million in 2015 due to improvement in the loan credit quality. Average loan balances were $9.4 billion for 2015, up $459 million from an average balance of $8.9 billion for 2014. Average deposit balances were $5.9 billion in 2015, up $708 million from average deposits of $5.1 billion in 2014. Average allocated capital increased $74 million to $977 million in 2015, reflecting the increase in segment's loan balances.

The Community, Consumer, and Business Banking segment had net income of $63 million in 2015, up $34 million compared to $29 million in 2014. Earnings increased as segment revenue increased $83 million to $615 million in 2015, primarily due to higher insurance commissions from the Ahmann & Martin Co. acquisition, higher mortgage banking income as well as changes in the long-term funding rates utilized in the FTP methodology for allocating interest credits. During 2015, the Corporation adopted an enhanced FTP methodology to better reflect the long-term value provided by a stable deposit funding base which resulted in an additional $20 million in allocated net interest income for 2015. The credit provision increased $2 million to $26 million for 2015, due to loan growth, partially offset by improving credit quality. Total noninterest expense for 2015 was $492 million, up $29 million from $463 million in 2014, primarily due to the Ahmann & Martin Co. acquisition. Average loan balances were $8.8 billion for 2015, up $969 million from an average balance of $7.8 billion for 2014. Average deposit balances were $10.9 billion in 2015, up $837 million from average deposits of $10.1 billion in 2014. Average allocated capital increased $76 million to $640 million in 2015, reflecting the increase in segment's loan balances.

The Risk Management and Shared Services segment had net income of $12 million in 2015, down $49 million compared to $61 million in 2014. The decrease was due to a $57 million decrease in net interest income related

to changes in the long-term funding rates utilized in the FTP methodology for allocating interest credits to the Corporate and Commercial Specialty and Community, Consumer, and Business segments. Average earning asset balances were $6.4 billion for 2015, up $385 million from an average balance of $6.0 billion in 2014, primarily in investment securities. Average deposits were $3.1 billion in 2015, up $711 million from 2014. Average allocated capital decreased $187 million to $216 million for 2015.

Table 26 Selected Quarterly Financial Data

The following is selected financial data summarizing the results of operations for each quarter in the years ended December 31, 2016 and 2015.

	2016 Quarter Ended			
	December 31	September 30	June 30	March 31
	(In Thousands, except per common share data)			
Net interest income	$ 180,035	$ 178,534	$ 176,717	$ 171,987
Provision for credit losses	15,000	21,000	14,000	20,000
Income before income taxes	78,409	77,454	70,525	61,208
Net income available to common equity	52,485	51,628	46,922	40,336
Basic earnings per common share	$ 0.35	$ 0.34	$ 0.31	$ 0.27
Diluted earnings per common share	$ 0.34	$ 0.34	$ 0.31	$ 0.27
	2015 Quarter Ended			
	December 31	September 30	June 30	March 31
	(In Thousands, except per common share data)			
Net interest income	$ 171,468	$ 170,509	$ 166,488	$ 167,813
Provision for credit losses	20,000	8,000	5,000	4,500
Income before income taxes	58,472	70,989	71,193	69,134
Net income available to common equity	40,593	47,254	47,855	45,444
Basic earnings per common share	$ 0.27	$ 0.31	$ 0.32	$ 0.30
Diluted earnings per common share	$ 0.27	$ 0.31	$ 0.31	$ 0.30

2015 Compared to 2014

Net income available to common equity for 2015 was $181 million, or diluted earnings per common share of $1.19. In comparison, net income available to common equity for 2014 was $186 million, or diluted earnings per common share of $1.16. Cash dividends increased to $0.41 per common share in 2015 an increase of 11% compared to cash dividends of $0.37 per common share in 2014. Key factors behind these results are discussed below.

- At December 31, 2015, total loans were $18.7 billion, up $1.1 billion (6%) from December 31, 2014, with growth in both commercial and residential mortgage loans. 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. Total deposits at December 31, 2015 were $21.0 billion, up $2.2 billion (12%) from December 31, 2014, primarily due to an increase in noninterest-bearing demand and money market deposits.

- Average earning assets of $24.6 billion in 2015 were $1.8 billion (8%) higher than 2014. Average loans increased $1.4 billion (8%), while average securities and short-term investments increased $398 million. Average interest-bearing liabilities of $19.3 billion in 2015 were up $1.5 billion (8%) versus 2014. On average, interest-bearing deposits increased $1.9 billion and average noninterest-bearing demand deposits increased by $329 million. Average short and long-term funding decreased $421 million, consisting of a $523 million decrease in short-term funding, partially offset by a $102 million increase in long-term funding.

- The provision for credit losses increased to $38 million in 2015, compared to $16 million in 2014. See Table 13 for additional information on provision for credit losses. Nonaccrual loans remained relatively unchanged

from December 31, 2014 at $178 million. Potential problem loans increased to $302 million, an increase of $111 million (58%), primarily due to $124 million increase in oil and gas loans, from December 31, 2014. See Table 11 for additional information on nonaccrual loans and the changes in potential problem loans. See also Table 8 for additional information on the oil and gas portfolio. At December 31, 2015, the allowance for loan losses to total loans ratio was 1.47%, covering 154% of nonaccrual loans, compared to 1.51% at December 31, 2014, covering 150% of nonaccrual loans. Net charge offs to average loans increased to 0.16%, compared to a net charge off ratio of 0.09% for 2014.

- Fully tax-equivalent net interest income was $697 million for 2015 was $3 million lower than 2014, including favorable volume variances (increasing fully tax-equivalent net interest income by $53 million), partially offset by unfavorable rate variances (decreasing fully tax-equivalent net interest income by $56 million). The net interest margin for 2015 was 2.84%, 24 bp lower than 3.08% in 2014, attributable to a 26 bp decrease in interest rate spread, and a 2 bp increase in contribution from net free funds.

- Noninterest income was $329 million for 2015, up $38 million (13%) from 2014. Insurance commissions were $75 million, an increase of $31 million (70%) compared to 2014. The increase in insurance commissions was primarily due to the acquisition of Ahmann & Martin Co. See Note 2 Acquisitions of the notes to consolidated financial statements for additional information on the Ahmann & Martin Co. acquisition. Net mortgage banking income was $32 million for 2015, up $11 million (51%) from 2014. Collectively, all remaining noninterest income categories were down (2%) compared to 2014.

- Noninterest expense for 2015 was $698 million, up $19 million from 2014. Personnel expense was $405 million, up $14 million (4%) versus 2014, and was primarily attributable to the Ahmann and Martin Co. acquisition which added approximately 100 colleagues during 2015. See Note 2 Acquisitions of the notes to consolidated financial statements for additional information on the Ahmann & Martin Co. acquisition. Nonpersonnel noninterest expense on an aggregate basis was up modestly (1%) compared to 2014.

- Income tax expense for 2015 was $81 million, compared to income tax expense of $86 million for 2014. The effective tax rate was 30.2% for 2015, compared to an effective rate of 31.0% for 2014.

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.

The consolidated financial statements of the Corporation are prepared in conformity with U.S. generally accepted accounting principles and follow general practices within the industries in which it operates. This preparation requires management to make estimates, assumptions, and judgments that affect the amounts reported in the financial statements and accompanying notes. These estimates, assumptions, and judgments are based on information available as of the date of the financial statements; accordingly, as this information changes, actual results could differ from the estimates, assumptions, and judgments reflected in the financial statements. Certain policies inherently have a greater reliance on the use of estimates, assumptions, and judgments and, as such, have a greater possibility of producing results that could be materially different than originally reported. Management believes the following policies are both important to the portrayal of the Corporation's financial condition and results of operations and require subjective or complex judgments and, therefore, management considers the following to be critical accounting policies. The critical accounting policies are discussed directly with the Audit Committee of the Corporation's Board of Directors.

Allowance for Loan Losses: Management's evaluation process used to determine the appropriateness of the allowance for loan losses is subject to the use of estimates, assumptions, and judgments. The evaluation process

combines many factors: management's ongoing review and grading of the loan portfolio, consideration of historical loan loss and delinquency experience, trends in past due and nonaccrual loans, risk characteristics of the various classifications of loans, 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 probable credit losses. Because current economic conditions can change and future events are inherently difficult to predict, the anticipated amount of estimated loan losses, and therefore the appropriateness of the allowance for loan losses, could change significantly. As an integral part of their examination process, various regulatory agencies also review the allowance for loan losses. Such agencies may require additions to the allowance for loan losses or may require that certain loan balances be charged off or downgraded into criticized loan categories when their credit evaluations differ from those of management, based on their judgments about information available to them at the time of their examination. The Corporation believes the level of the allowance for loan losses is appropriate. See Note 1 Summary of Significant Accounting Policies and Note 4 Loans of the notes to consolidated financial statements as well as the "Allowance for Credit Losses" section.

Goodwill Impairment Assessment: Goodwill is not amortized but, instead, is 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 test in May 2016, utilizing a qualitative assessment. See Note 1 Summary of Significant Accounting Policies for the Corporation's accounting policy on goodwill and see Note 5 Goodwill and Other Intangible Assets of the notes to consolidated financial statements for a detailed discussion of the factors considered by management in the qualitative assessment. Based on this assessment, management concluded that the 2016 annual qualitative impairment assessment indicated 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 were no events since the May 2016 impairment testing that have changed the Corporation's impairment assessment conclusion. There were no impairment charges recorded in 2016, 2015, or 2014.

Mortgage Servicing Rights Valuation: The fair value of the Corporation's mortgage servicing rights asset is important to the presentation of the consolidated financial statements since the mortgage servicing rights are carried on the consolidated balance sheet at the lower of amortized cost or estimated fair value. Mortgage servicing rights do not trade in an active open market with readily observable prices. As such, like other participants in the mortgage banking business, the Corporation relies on 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 use of a discounted cash flow model involves judgment, particularly of estimated prepayment speeds of underlying mortgages serviced and the overall level of interest rates. Loan type and note interest rate are the predominant risk characteristics of the underlying loans used to stratify capitalized mortgage servicing rights for purposes of measuring impairment. The Corporation periodically reviews the assumptions underlying the valuation of mortgage servicing rights. While the Corporation believes that the values produced by the discounted cash flow model are indicative of the fair value of its mortgage servicing rights portfolio, these values can change significantly depending upon key factors, such as the then current interest rate environment, estimated prepayment speeds of the underlying mortgages serviced, and other economic conditions. The proceeds that might be received should the Corporation actually consider a sale of some or all of the mortgage servicing rights portfolio could differ from the amounts reported at any point in time.

To better understand the sensitivity of the impact of prepayment speeds and refinance rates on the value of the mortgage servicing rights asset at December 31, 2016, (holding all other factors unchanged), if refinance rates were to decrease 50 bp, the estimated value of the mortgage servicing rights asset would have been approximately $8 million (or 11%) lower. Conversely, if refinance rates were to increase 50 bp, the estimated value of the mortgage servicing rights asset would have been approximately $7 million (or 9%) higher. However, the Corporation's potential recovery recognition due to valuation improvement is limited to the balance of the mortgage servicing rights valuation reserve, which was approximately $1 million at December 31, 2016. The potential recovery recognition is constrained as the Corporation has elected to use the amortization method of accounting (rather than fair value measurement accounting). Under the amortization method, mortgage servicing rights are carried at the lower of the initial capitalized amount, net of accumulated amortization, or estimated fair value. Therefore, the mortgage servicing right asset may only be marked up to the extent of the previously recognized valuation reserve.

The Corporation believes the mortgage servicing rights asset is properly recorded in the consolidated balance sheets. See Note 1 Summary of Significant Accounting Policies and Note 5 Goodwill and Other Intangible Assets of the notes to consolidated financial statements.

Income Taxes: The assessment of tax assets and liabilities involves the use of estimates, assumptions, interpretations, and judgment concerning certain accounting pronouncements and federal and state tax codes and regulations. There can be no assurance that future events, such as court decisions or positions of federal and state taxing authorities, will not differ from management's current assessment, the impact of which could be significant to the consolidated results of operations and reported earnings. Quarterly assessments are performed to determine if valuation allowances are necessary against any portion of the Corporation's deferred tax assets. Assessing the need for, or sufficiency of, a valuation allowance requires management to evaluate all available evidence, both positive and negative, including the recent trend of quarterly earnings. Positive evidence necessary to overcome the negative evidence includes whether future taxable income in sufficient amounts and character within the carryback and carryforward periods is available under the tax law, including the use of tax planning strategies. When negative evidence (e.g., cumulative losses in recent years, history of operating loss or tax credit carryforwards expiring unused) exists, more positive evidence than negative evidence will be necessary. The Corporation has concluded that based on the level of positive evidence, it is more likely than not that the deferred tax asset will be realized. However, there is no guarantee that the tax benefits associated with the deferred tax assets will be fully realized. The Corporation believes the tax assets and liabilities are properly recorded in the consolidated balance sheets. See Note 13 Income Taxes of the notes to consolidated financial statements and section "Income Taxes".

Future Accounting Pronouncements

New accounting policies adopted by the Corporation are discussed in Note 1 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 discussed below. To the extent the adoption of new accounting standards materially affects the Corporation's financial condition, results of operations, or liquidity, the impacts are discussed in the applicable sections of this financial review and the notes to consolidated financial statements.

In January 2017, 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. The Corporation has not had to perform a step one quantitative analysis since 2012, which concluded no impairment was necessary. The Corporation intends to adopt the accounting standard during the second quarter of 2020, as required, 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.

In November 2016, the FASB issued an amendment to improve GAAP by providing guidance on the presentation of restricted cash or restricted cash equivalents in the statement of cash flows, in order to reduce diversity in practice. The amendment requires that a statement of cash flow explain the change during the period in the total cash, cash equivalents, and amounts generally described as restricted cash or restricted cash equivalents. Therefore, amounts generally described as restricted cash and restricted cash equivalents should be included in cash and cash equivalents when reconciling the beginning and end of period total amounts shown on the statement of cash flow. This amendment is effective for fiscal years beginning after December 15, 2017, including interim periods within those fiscal years. Entities should apply the amendment retrospectively to each period presented. Early adoption is permitted, including in an interim period. The Corporation intends to adopt the accounting standard during the

first quarter of 2018, as required, and is currently evaluating the impact on its results of operations, financial position, and liquidity.

In October 2016, the FASB issued an amendment to address how a reporting entity that is a single decision maker of a variable interest entity treats indirect interests in the entity held through related parties that are under common control with the reporting entity. This amendment is effective for fiscal years beginning after December 15, 2016, including interim periods within those fiscal years. Early adoption is permitted, including in an interim period. However, if an entity adopts in an interim period other than the first interim period, it should reflect the cumulative effect of the accounting change as of the beginning of the fiscal year that includes that interim period. The Corporation intends to adopt the accounting standard during the first quarter of 2017, as required, with no material impact expected on its results of operations, financial position, and liquidity.

In October 2016, the FASB issued an amendment requiring an entity to recognize income tax consequences on an intra-entity transfer of an asset other than inventory at the time the transaction occurs. This amendment is effective for fiscal years beginning after December 15, 2017, 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. Early adoption is permitted for all entities in the first interim period if an entity issues interim financial statements. The Corporation intends to adopt the accounting standard during the first quarter of 2018, as required, with no material impact expected on its results of operations, financial position, and liquidity.

In August 2016, the FASB issued an amendment to provide clarification on where to classify cash flows involving certain cash receipts and cash payments. Under the new guidance, cash payments for debt prepayment or debt extinguishment costs should be classified as cash outflows for financing activities. The new guidance also details the specific classification of contingent consideration cash payments made after a business combination depending on the timing of payments. Lastly, cash proceeds received from corporate owned life insurance policies (including BOLI) should be classified as cash inflows from investing, while the cash payments for the premiums may be classified as cash outflows for investing, operating, or a combination of both. This amendment is effective for fiscal years beginning after December 15, 2017, including interim periods within those fiscal years. Entities should apply the amendment retrospectively to each period presented. Early adoption is permitted, including in an interim period; however, all of the amendments must be adopted in the same period. The Corporation intends to adopt the accounting standard during the first quarter of 2018, as required, and is currently evaluating the impact on its results of operations, financial position, and liquidity.

In June 2016, 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. Early adoption is permitted. The Corporation intends to adopt the accounting standard, as required, and is currently evaluating the impact on its results of operations, financial position, and liquidity.

In March 2016, the FASB issued an amendment to eliminate the requirement that when an investment qualifies for use of the equity method as a result of an increase in the level of ownership interest or degree of influence, an investor must adjust the investment, results of operations, and retained earnings retroactively on a step-by-step basis as if the equity method had been in effect during all previous periods that the investment had been held. The amendments require that the equity method investor add the cost of acquiring the additional interest in the investee to the current basis of the investor’s previously held interest and adopt the equity method of accounting as of the date the investment becomes qualified for equity method accounting. Therefore, upon qualifying for the equity method of accounting, no retroactive adjustment of the investment is required. The amendments require that an

entity that has an available-for-sale equity security that becomes qualified for the equity method of accounting recognize through earnings the unrealized holding gain or loss in accumulated other comprehensive income at the date the investment becomes qualified for use of the equity method. This amendment is effective for annual periods, and interim periods within those annual periods, beginning after December 15, 2016. Entities should apply the amendment prospectively to increases in the level of ownership interest or degree of influence that result in the adoption of the equity method. Early adoption is permitted. The Corporation intends to adopt the accounting standard during the first quarter of 2017, as required, with no material impact on its results of operations, financial position, and liquidity.

In February 2016, the FASB issued an amendment to provide transparency and comparability among organizations by recognizing lease assets and lease liabilities on the balance sheet 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 is 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 is permitted. The Corporation intends to adopt the accounting standard during the first quarter of 2019, as required, and is currently evaluating the impact on its results of operations, financial position, and liquidity.

In January 2016, the FASB issued an amendment to address certain aspects of recognition, measurement, presentation, and disclosure of financial instruments. This amendment supersedes the guidance to classify equity securities with readily determinable fair values into different categories, requires equity securities to be measured at fair value with changes in the fair value recognized through net income, and simplifies the impairment assessment of equity investments without readily determinable fair values. The amendment requires public business entities that are required to disclose the fair value of financial instruments measured at amortized cost on the balance sheet to measure that fair value using the exit price notion. The amendment requires an entity to present separately in other comprehensive income the portion of the total change in the fair value of a liability resulting from a change in the instrument-specific credit risk when the entity has elected to measure the liability at fair value in accordance with the fair value option. The amendment requires separate presentation of financial assets and financial liabilities by measurement category and form of financial asset on the balance sheet or in the accompanying notes to the financial statements. The amendment reduces diversity in current practice by clarifying that an entity should evaluate the need for a valuation allowance on a deferred tax asset related to available for sale securities in combination with the entity’s other deferred tax assets. This amendment is effective for fiscal years beginning after December 15, 2017, including interim periods within those fiscal years. Entities are required to apply the amendment by means of a cumulative-effect adjustment as of the beginning of the fiscal year of adoption, with the exception of the amendment related to equity securities without readily determinable fair values, which should be applied prospectively to equity investments that exist as of the date of adoption. The Corporation intends to adopt the accounting standard during the first quarter of 2018, as required, and is currently evaluating the impact on its results of operations, financial position, and liquidity.

In May 2014, the FASB issued an amendment to clarify the principles for recognizing revenue and to develop a common revenue standard. The standard outlines a single comprehensive model for entities to use in accounting for revenue arising from contracts with customers and supersedes most current revenue recognition guidance, including industry-specific guidance. The core principle of the revenue model is that “an entity recognizes revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services.” In applying the revenue model to contracts within its scope, an entity should apply the following steps: (1) Identify the contract(s) with a customer,

(2) Identify the performance obligations in the contract, (3) Determine the transaction price, (4) Allocate the transaction price to the performance obligations in the contract, and (5) Recognize revenue when (or as) the entity satisfies a performance obligation. The standard applies to all contracts with customers except those that are within the scope of other topics in the FASB Codification. The standard also requires significantly expanded disclosures about revenue recognition. In March 2016, the FASB issued amendments intended to improve the operability and understandability of the implementation guidance on principal versus agent considerations by amending certain existing illustrative examples and adding additional illustrative examples to assist in the application of the guidance. In May 2016, the FASB issued an amendment addressing clarifications to the guidance on collectability, presentation of sales taxes and other similar taxes collected, noncash consideration, and completed contracts at transition, while retaining the related principles contained in the new revenue recognition standard. In April 2016, the FASB issued an amendment clarifying guidance related to identifying performance obligations and licensing implementation guidance, while retaining the related principles contained in the new revenue recognition standard. The amendment was originally to be effective for annual reporting periods beginning after December 15, 2016 (including interim reporting periods within those periods); however, in July 2015, the FASB approved a one year deferral of the effective date to December 31, 2017. Early application is not permitted. The Corporation intends to adopt the accounting standard during the first quarter of 2018, as required. The Corporation's preliminary analysis suggests that the adoption of this accounting standard is not expected to have a material impact on the Corporation's consolidated financial statements, and the modified retrospective approach will likely be used. The FASB continues to release new accounting guidance related to the adoption of this standard, which could impact the Corporation's preliminary materiality analysis and may change the conclusions reached as to the application of this new guidance.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Information required by this item is set forth in Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations," under the captions “Quantitative and Qualitative Disclosures about Market Risk” and “Interest Rate Risk.”

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

ASSOCIATED BANC-CORP
CONSOLIDATED BALANCE SHEETS

	December 31,	
	2016	2015
	(In Thousands, except share and per share data)	
ASSETS		
Cash and due from banks	$ 446,558	$ 374,921
Interest-bearing deposits in other financial institutions	149,175	79,764
Federal funds sold and securities purchased under agreements to resell	46,500	19,000
Investment securities held to maturity, at amortized cost	1,273,536	1,168,230
Investment securities available for sale, at fair value	4,680,226	4,967,414
Federal Home Loan Bank and Federal Reserve Bank stocks, at cost	140,001	147,240
Loans held for sale	120,484	124,915
Loans	20,054,716	18,714,343
Allowance for loan losses	(278,335)	(274,264)
Loans, net	19,776,381	18,440,079
Premises and equipment, net	330,315	267,606
Goodwill	971,951	968,844
Mortgage servicing rights, net	61,476	61,341
Other intangible assets, net	15,377	16,458
Trading assets	52,398	32,192
Other assets	1,074,937	1,043,831
Total assets	$ 29,139,315	$ 27,711,835
LIABILITIES AND STOCKHOLDERS' EQUITY		
Noninterest-bearing demand deposits	$ 5,392,208	$ 5,562,466
Interest-bearing deposits	16,496,240	15,445,199
Total deposits	21,888,448	21,007,665
Federal funds purchased and securities sold under agreements to repurchase	508,347	431,438
Other short-term funding	583,688	402,978
Long-term funding	2,761,795	2,676,164
Trading liabilities	51,103	33,430
Accrued expenses and other liabilities	254,622	222,914
Total liabilities	26,048,003	24,774,589
Stockholders' equity		
Preferred equity	159,929	121,379
Common equity:		
Common stock	1,630	1,642
Surplus	1,459,498	1,458,522
Retained earnings	1,695,764	1,593,239
Accumulated other comprehensive loss	(54,679)	(32,616)
Treasury stock, at cost	(170,830)	(204,920)
Total common equity	2,931,383	2,815,867
Total stockholders' equity	3,091,312	2,937,246
Total liabilities and stockholders' equity	$ 29,139,315	$ 27,711,835
Preferred shares issued	165,000	125,114
Preferred shares authorized (par value $1.00 per share)	750,000	750,000
Common shares issued	163,030,209	164,200,068
Common shares authorized (par value $0.01 per share)	250,000,000	250,000,000
Treasury shares of common stock	10,909,362	12,960,636

See accompanying notes to consolidated financial statements.

ASSOCIATED BANC-CORP
CONSOLIDATED STATEMENTS OF INCOME

	For the Years Ended December 31,		
	2016	2015	2014
	(In Thousands, except per share data)		
INTEREST INCOME			
Interest and fees on loans	$ 659,538	$ 615,627	$ 598,582
Interest and dividends on investment securities:			
Taxable	95,152	100,292	102,464
Tax-exempt	32,049	31,152	29,064
Other interest	4,829	6,591	6,635
Total interest income	791,568	753,662	736,745
INTEREST EXPENSE			
Interest on deposits	50,335	33,125	26,294
Interest on Federal funds purchased and securities sold under agreements to repurchase	1,314	943	1,219
Interest on other short-term funding	2,114	465	785
Interest on long-term funding	30,532	42,851	27,480
Total interest expense	84,295	77,384	55,778
NET INTEREST INCOME	707,273	676,278	680,967
Provision for credit losses	70,000	37,500	16,000
Net interest income after provision for credit losses	637,273	638,778	664,967
NONINTEREST INCOME			
Trust service fees	46,867	48,840	48,403
Service charges on deposit accounts	66,609	65,471	68,779
Card-based and other nondeposit fees	50,077	47,912	47,114
Insurance commissions	80,795	75,363	44,421
Brokerage and annuity commissions	16,235	15,378	16,089
Mortgage banking, net	38,121	32,263	21,320
Capital market fees, net	22,059	14,558	12,862
Bank owned life insurance income	14,371	9,796	13,576
Asset gains (losses), net	(86)	2,540	10,830
Investment securities gains, net	9,316	8,133	494
Other	8,519	9,103	6,973
Total noninterest income	352,883	329,357	290,861
NONINTEREST EXPENSE			
Personnel expense	414,837	404,741	390,399
Occupancy	56,069	60,896	57,677
Equipment	21,489	23,209	24,784
Technology	57,300	60,613	55,472
Business development and advertising	26,351	25,772	26,144
Other intangible amortization	2,093	3,094	3,747
Loan expense	13,641	14,102	13,866
Legal and professional fees	19,869	17,052	17,485
Foreclosure / OREO expense, net	4,844	5,442	7,264
FDIC expense	34,750	26,000	23,761
Other	51,317	57,426	59,184
Total noninterest expense	702,560	698,347	679,783
Income before income taxes	287,596	269,788	276,045
Income tax expense	87,322	81,487	85,536
Net income	200,274	188,301	190,509
Preferred stock dividends	8,903	7,155	5,002
Net income available to common equity	$ 191,371	$ 181,146	$ 185,507
Earnings per common share:			
Basic	$ 1.27	$ 1.20	$ 1.17
Diluted	$ 1.26	$ 1.19	$ 1.16
Average common shares outstanding:			
Basic	148,769	149,350	157,286
Diluted	149,961	150,603	158,254

See accompanying notes to consolidated financial statements.

ASSOCIATED BANC-CORP
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

	For the Years Ended December 31,		
	2016	2015	2014
	($ in Thousands)		
Net income	$ 200,274	$ 188,301	$ 190,509
Other comprehensive income (loss), net of tax:			
Investment securities available for sale:			
Net unrealized gains (losses)	(17,900)	(37,873)	49,038
Net unrealized gains on available for sale securities transferred to held to maturity securities	—	17,434	—
Amortization of net unrealized gains on available for sale securities transferred to held to maturity securities	(5,887)	(555)	—
Reclassification adjustment for net gains realized in net income	(9,316)	(8,133)	(494)
Income tax (expense) benefit	12,565	11,074	(18,636)
Other comprehensive income (loss) on investment securities available for sale	(20,538)	(18,053)	29,908
Defined benefit pension and postretirement obligations:			
Prior service cost, net of amortization	(73)	50	58
Plan amendments	1,759	—	—
Net loss, net of amortization	(4,026)	(15,636)	(17,079)
Income tax benefit	815	5,873	6,507
Other comprehensive loss on pension and postretirement obligations	(1,525)	(9,713)	(10,514)
Total other comprehensive income (loss)	(22,063)	(27,766)	19,394
Comprehensive income	$ 178,211	$ 160,535	$ 209,903

See accompanying notes to consolidated financial statements.

ASSOCIATED BANC-CORP
CONSOLIDATED STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY

	Preferred Equity		Common Stock						
	Shares	Amount	Shares	Amount	Surplus	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Treasury Stock	Total
	(In Thousands, except per share data)								
Balance, December 31, 2013	64	$ 61,862	175,013	$ 1,750	$1,617,990	$ 1,392,508	$ (24,244)	$ (158,576)	$ 2,891,290
Comprehensive income:									
Net income	—	—	—	—	—	190,509	—	—	190,509
Other comprehensive income	—	—	—	—	—	—	19,394	—	19,394
Comprehensive income									209,903
Common stock issued:									
Stock-based compensation plans, net	—	—	—	—	2,553	(21,171)	—	31,846	13,228
Purchase of common stock returned to authorized but unissued	—	—	(8,469)	(85)	(150,413)	—	—	—	(150,498)
Purchase of treasury stock	—	—	—	—	—	—	—	(112,312)	(112,312)
Cash dividends:									
Common stock, $0.37 per share	—	—	—	—	—	(58,710)	—	—	(58,710)
Preferred stock	—	—	—	—	—	(5,002)	—	—	(5,002)
Purchase of preferred stock	(2)	(2,135)	—	—	—	(316)	—	—	(2,451)
Stock-based compensation expense, net	—	—	—	—	16,091	—	—	—	16,091
Tax impact of stock-based compensation	—	—	—	—	(1,288)	—	—	—	(1,288)
Balance, December 31, 2014	62	$ 59,727	166,544	$ 1,665	$1,484,933	$ 1,497,818	$ (4,850)	$ (239,042)	$ 2,800,251
Comprehensive income:									
Net income	—	—	—	—	—	188,301	—	—	188,301
Other comprehensive loss	—	—	—	—	—	—	(27,766)	—	(27,766)
Comprehensive income									160,535
Common stock issued:									
Stock-based compensation plans, net	—	—	—	—	3,316	(22,538)	—	39,276	20,054
Acquisition of Ahmann & Martin Co.	—	—	2,621	26	43,504	—	—	—	43,530
Purchase of common stock returned to authorized but unissued	—	—	(4,965)	(49)	(92,951)	—	—	—	(93,000)
Purchase of treasury stock	—	—	—	—	—	—	—	(5,154)	(5,154)
Cash dividends:									
Common stock, $0.41 per share	—	—	—	—	—	(62,400)	—	—	(62,400)
Preferred stock	—	—	—	—	—	(7,155)	—	—	(7,155)
Issuance of preferred stock	65	62,966	—	—	—	—	—	—	62,966
Purchase of preferred stock	(2)	(1,209)	—	—	—	(126)	—	—	(1,335)
Other	—	(105)	—	—	—	(661)	—	—	(766)
Stock-based compensation expense, net	—	—	—	—	18,202	—	—	—	18,202
Tax impact of stock-based compensation	—	—	—	—	1,518	—	—	—	1,518
Balance, December 31, 2015	125	$ 121,379	164,200	$ 1,642	$1,458,522	$ 1,593,239	$ (32,616)	$ (204,920)	$ 2,937,246
Comprehensive income:									
Net income	—	—	—	—	—	200,274	—	—	200,274
Other comprehensive loss	—	—	—	—	—	—	(22,063)	—	(22,063)
Comprehensive income									178,211
Common stock issued:									
Stock-based compensation plans, net	—	—	—	—	1,940	(19,356)	—	39,164	21,748
Purchase of common stock returned to authorized but unissued	—	—	(1,170)	(12)	(19,995)	—	—	—	(20,007)
Purchase of treasury stock	—	—	—	—	—	—	—	(5,074)	(5,074)
Cash dividends:									
Common stock, $0.45 per share	—	—	—	—	—	(67,855)	—	—	(67,855)
Preferred stock	—	—	—	—	—	(8,903)	—	—	(8,903)
Issuance of preferred stock	100	97,066	—	—	—	—	—	—	97,066
Redemption of preferred stock	(60)	(57,338)	—	—	—	(1,565)	—	—	(58,903)
Purchase of preferred stock	—	(1,178)	—	—	—	(70)	—	—	(1,248)
Stock-based compensation expense, net	—	—	—	—	21,971	—	—	—	21,971
Tax impact of stock-based compensation	—	—	—	—	(2,940)	—	—	—	(2,940)
Balance, December 31, 2016	165	$ 159,929	163,030	$ 1,630	$1,459,498	$ 1,695,764	$ (54,679)	$ (170,830)	$ 3,091,312

See accompanying notes to consolidated financial statements.

ASSOCIATED BANC-CORP
CONSOLIDATED STATEMENTS OF CASH FLOWS

	For the Years Ended December 31,		
	2016	2015	2014
CASH FLOWS FROM OPERATING ACTIVITIES	($ in Thousands)		
Net income	$ 200,274	$ 188,301	$ 190,509
Adjustments to reconcile net income to net cash provided by operating activities:			
Provision for credit losses	70,000	37,500	16,000
Depreciation and amortization	45,434	47,168	50,281
Addition to (recovery of) valuation allowance on mortgage servicing rights, net	(200)	(425)	321
Amortization of mortgage servicing rights	12,327	11,601	11,067
Amortization of other intangible assets	2,093	3,094	3,747
Amortization and accretion on earning assets, funding, and other, net	46,615	39,806	28,145
Deferred income taxes	10,656	(3,522)	9,890
Tax impact of stock based compensation	(2,940)	1,518	(1,288)
Gain on sales of investment securities, net	(9,316)	(8,133)	(494)
Asset (gains) losses, net	86	(2,540)	(10,830)
Gain on mortgage banking activities, net	(27,060)	(20,258)	(13,765)
Mortgage loans originated and acquired for sale	(1,271,124)	(1,228,106)	(1,069,852)
Proceeds from sales of mortgage loans held for sale	1,542,660	1,241,012	1,010,167
Pension contributions	—	—	(21,000)
(Increase) decrease in interest receivable	(7,836)	395	(1,264)
Increase (decrease) in interest payable	(4,642)	3,898	1,536
Net change in other assets and other liabilities	21,915	(9,565)	(3,661)
Net cash provided by operating activities	628,942	301,744	199,509
CASH FLOWS FROM INVESTING ACTIVITIES			
Net increase in loans	(1,682,579)	(1,136,793)	(1,736,571)
Purchases of:			
Available for sale securities	(1,304,921)	(2,859,793)	(1,096,410)
Held to maturity securities	(195,442)	(250,767)	(229,795)
Federal Home Loan Bank and Federal Reserve Bank stocks	(92,761)	(35,647)	(7,857)
Premises, equipment, and software, net of disposals	(103,881)	(54,636)	(50,396)
Other assets	(11,057)	(15,187)	(4,496)
Proceeds from:			
Sales of available for sale securities	549,555	1,601,947	102,011
Sale of Federal Home Loan Bank and Federal Reserve Bank stocks	100,000	77,514	—
Prepayments, calls, and maturities of available for sale securities	997,701	1,099,625	862,037
Prepayments, calls, and maturities of held to maturity securities	75,796	17,013	6,420
Prepayments, calls and maturities of other assets	27,692	21,236	36,452
Net cash (paid) received in acquisition	(685)	1,132	—
Net cash used in investing activities	(1,640,582)	(1,534,356)	(2,118,605)
CASH FLOWS FROM FINANCING ACTIVITIES			
Net increase in deposits	880,783	2,244,161	1,496,337
Net increase (decrease) in short-term funding	257,619	(233,872)	327,362
Repayment of long-term funding	(1,180,038)	(1,500,035)	(155,066)
Proceeds from issuance of long-term funding	1,265,000	250,000	996,030
Proceeds from issuance of common stock for stock-based compensation plans	21,748	20,054	13,228
Proceeds from issuance of preferred stock	97,066	62,966	—
Redemption of preferred stock	(58,903)	—	—
Purchase of preferred stock	(1,248)	(1,335)	(2,451)
Purchase of common stock returned to authorized but unissued	(20,007)	(93,000)	(150,498)
Purchase of treasury stock	—	—	(108,600)
Purchase of treasury stock for tax withholding	(5,074)	(5,154)	(3,712)
Cash dividends on common stock	(67,855)	(62,400)	(58,710)
Cash dividends on preferred stock	(8,903)	(7,155)	(5,002)
Net cash provided by financing activities	1,180,188	674,230	2,348,918
Net increase (decrease) in cash and cash equivalents	168,548	(558,382)	429,822
Cash and cash equivalents at beginning of period	473,685	1,032,067	602,245
Cash and cash equivalents at end of period	$ 642,233	$ 473,685	$ 1,032,067
Supplemental disclosures of cash flow information:			
Cash paid for interest	$ 88,269	$ 73,054	$ 54,330
Cash paid for income and franchise taxes	75,558	84,407	72,431
Loans and bank premises transferred to other real estate owned	9,752	10,988	21,413
Capitalized mortgage servicing rights	12,262	12,372	8,253
Loans transferred into held for sale from portfolio, net	256,194	—	—
Acquisition:			
Fair value of assets acquired, including cash and cash equivalents	522	4,590	—
Fair value ascribed to goodwill and intangible assets	4,119	51,791	—
Fair value of liabilities assumed	1,423	12,851	—
Common stock issued in acquisition	—	43,530	—

See accompanying notes to consolidated financial statements.

ASSOCIATED BANC-CORP
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
December 31, 2016, 2015, and 2014

Note 1 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. The following is a description of the more significant of those policies.

Business

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") is a bank holding company headquartered in Wisconsin. The Corporation provides a full range of banking and related financial services to consumer and commercial customers through its network of bank and nonbank subsidiaries. The Corporation is subject to competition from other financial and non-financial institutions that offer similar or competing products and services. The Corporation is regulated by federal and state agencies and is subject to periodic examinations by those agencies.

Basis of Financial Statement Presentation

The consolidated financial statements include the accounts of the Parent Company and its wholly-owned subsidiaries. Investments in unconsolidated entities (none of which are considered to be variable interest entities in which the Corporation is the primary beneficiary) are accounted for using the cost method of accounting when the Corporation has determined that the cost method is appropriate. Investments not meeting the criteria for cost method accounting are accounted for using the equity method of accounting. Investments in unconsolidated entities are included in other assets, and the Corporation's share of income or loss is recorded in other noninterest income, while distributions in excess of the investment are recorded in gain on assets.

All significant intercompany balances and transactions have been eliminated in consolidation.

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. Management has evaluated subsequent events for potential recognition or disclosure.

During 2016, the Corporation modified the consolidated statements of income from prior periods' presentation to conform with the current period presentation. Specifically, OREO gains / losses were reclassified from Asset gains (losses), net to Foreclosure / OREO expense, net; loan syndications were reclassified from Card-based and other nondeposit fees to Capital market fees, net; and bond underwriting was reclassified from Other noninterest income to Capital market fees, net. In addition, the Corporation combined the lease financing portfolio with the commercial and industrial portfolio for disclosure purposes. All prior periods have been reclassified to reflect these immaterial reclassifications.

During the first quarter of 2016, the Corporation adopted a new accounting standard related to simplifying the presentation of debt issuance costs. Under this new accounting standard, debt issuance costs are still capitalized; however, they are reflected on the balance sheet with the related debt issued rather than within other assets. All prior period balance sheets were required to be restated to reflect this change in presentation.

Investment Securities

Securities are classified as held to maturity or available for sale at the time of purchase. Investment securities classified as held to maturity, which management has the positive intent and ability to hold to maturity, are reported at amortized cost. Investment securities classified as available for sale, which management has the intent and ability to hold for an indefinite period of time, but not necessarily to maturity, are carried at fair value, with unrealized gains and losses, net of related deferred income taxes, included in stockholders' equity as a separate component of other comprehensive income. Any decision to sell investment securities available for sale would be based on various factors, including, but not limited to, asset / liability management strategies, changes in interest rates or prepayment risks, liquidity needs, or regulatory capital considerations. Realized gains or losses on investment security sales (using specific identification method) are included in investment securities gains (losses), net, in the consolidated statements of income. Premiums and discounts are amortized or accreted into interest income over the estimated life (earlier of call date, maturity, or estimated life) of the related security, using a prospective method that approximates level yield.

In certain situations, management may elect to transfer certain investment securities from the available for sale classification to the held to maturity classification. In such cases, the investment securities are reclassified at fair value at the time of transfer. Any unrealized gain or loss included in accumulated other comprehensive income (loss) at the time of transfer is retained therein and amortized over the remaining life of the investment security as an adjustment to yield.

Declines in the fair value of investment securities (with certain exceptions for debt securities noted below) that are deemed to be other-than-temporary are charged to earnings as a realized loss, and a new cost basis for the investment security is established. In evaluating other-than-temporary impairment, management considers the length of time and extent to which the security has been in an unrealized loss position, changes in security ratings, the financial condition and near-term prospects of the issuer, as well as security and industry specific economic conditions. In addition, the Corporation considers the intent and ability to retain its investment in the issuer for a period of time sufficient to allow for any anticipated recovery in fair value in the near term. Declines in the fair value of debt securities below amortized cost are deemed to be other-than-temporary in circumstances where: (1) the Corporation has the intent to sell a security; (2) it is more likely than not that the Corporation will be required to sell the security before recovery of its amortized cost basis; or (3) the Corporation does not expect to recover the entire amortized cost basis of the security. If the Corporation intends to sell a security or if it is more likely than not that the Corporation will be required to sell the security before recovery, an other-than-temporary impairment write-down is recognized in earnings equal to the difference between the security's amortized cost basis and its fair value. If an entity does not intend to sell the security or it is more likely than not that it will not be required to sell the security before recovery, the other-than-temporary impairment write-down is separated into an amount representing credit loss, which is recognized in earnings, and an amount related to all other factors, which is recognized in other comprehensive income. Declines in value determined to be other-than-temporary are included in investment securities gains (losses), net, in the consolidated statements of income. See Note 3 for additional information on investment securities.

Federal Home Loan Bank ("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. See Note 3 for additional information on the FHLB and Federal Reserve Bank Stocks.

Loans Held for Sale

Loans held for sale, which consist generally of current production of certain fixed-rate, first-lien residential mortgage loans, are carried at the lower of cost or estimated fair value as determined on an aggregate basis. The amount by which cost exceeds estimated fair value is accounted for as a market valuation adjustment to the carrying

value of the loans. Changes, if any, in the market valuation adjustment are included in mortgage banking, net, in the consolidated statements of income.

Loans

Loans that management has the intent and ability to hold for the foreseeable future or until maturity or pay-off are reported at their outstanding principal balances, net of any deferred fees and costs on originated loans. Origination fee income received on loans and amounts representing the estimated direct costs of origination are deferred and amortized to interest income over the life of the loan using the effective interest method. An allowance for loan losses is established for estimated credit losses in the loan portfolio. See Allowance for Loan Losses below for further policy discussion.

Nonaccrual Loans: Management considers a loan to be 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. This determination is based on management's review of current information and other events regarding the borrowers' ability to repay their obligations. 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.

Interest income on loans is based on the principal balance outstanding computed using the effective interest method. The accrual of interest income for commercial loans is discontinued when there is a clear indication that the borrower's cash flow may not be sufficient to meet payments as they become due, while the accrual of interest income for consumer loans is discontinued when loans reach specific delinquency levels. Loans are considered past due if the required principal and interest payments have not been received as of the date such payments were due. Loans are generally placed on nonaccrual status when contractually past due 90 days or more as to interest or principal payments, unless the loan is well secured and in the process of collection. Additionally, whenever management becomes aware of facts or circumstances that may adversely impact the collectability of principal or interest on loans, it is management's practice to place such loans on a nonaccrual status immediately, rather than delaying such action until the loans become 90 days past due. When a loan is placed on nonaccrual status, previously accrued and uncollected interest is reversed, amortization of related deferred loan fees or costs is suspended, and income is recorded only to the extent that interest payments are subsequently received in cash and a determination has been made that the principal and interest of the loan is collectible. If collectability of the principal and interest is in doubt, payments received are applied to loan principal.

While a loan is in nonaccrual status, some or all of the cash interest payments received may be treated as interest income on a cash basis as long as the remaining recorded investment in the loan (i.e., after charge off of identified losses, if any) is deemed to be fully collectible. The determination as to the ultimate collectability of the loan's remaining recorded investment must be supported by a current, well documented credit evaluation of the borrower's financial condition and prospects for repayment, including consideration of the borrower's sustained historical repayment performance and other relevant factors. A nonaccrual loan is returned to accrual status when all delinquent principal and interest payments become current in accordance with the terms of the loan agreement, the borrower has demonstrated a period of sustained repayment performance, and the ultimate collectability of the total contractual principal and interest is no longer in doubt. A sustained period of repayment performance generally would be a minimum of six months. See Note 4 for additional information on loans.

Troubled Debt Restructurings ("Restructured Loans"): Loans are considered restructured loans if concessions have been granted to borrowers that are experiencing financial difficulty. The concessions granted generally involve the modification of terms of the loan, such as changes in payment schedule or interest rate, which generally would not otherwise be considered. Restructured loans can involve loans remaining on nonaccrual, moving to nonaccrual, or continuing on accrual status, depending on the individual facts and circumstances of the borrower. Nonaccrual restructured loans are included and treated with all other nonaccrual loans. In addition, all accruing restructured loans are reported as troubled debt restructurings, which are considered and accounted for as impaired loans. Generally, restructured loans remain on nonaccrual until the customer has attained a sustained period of repayment performance under the modified loan terms (generally a minimum of six months). However, performance prior to

the restructuring, or significant events that coincide with the restructuring, are considered in assessing whether the borrower can meet the new terms and whether the loan should be returned to or maintained on accrual status. If the borrower's ability to meet the revised payment schedule is not reasonably assured, the loan remains on nonaccrual status. See Note 4 for additional information on restructured loans.

Allowance for Loan Losses: The allowance for loan losses is a reserve for estimated credit losses on individually evaluated loans determined to be impaired as well as estimated credit losses inherent in the loan portfolio, and is based on quarterly evaluations of the collectability and historical loss experience of loans. Actual credit losses, net of recoveries, are deducted from the allowance for loan losses. A provision for loan losses, which is a charge against earnings, is recorded to bring the allowance for loan losses to a level that, in management's judgment, is appropriate to absorb probable losses in the loan portfolio.

The methodology applied by the Corporation, designed to assess the appropriateness of the allowance for loan losses, is based upon management's ongoing review and grading of the loan portfolio into criticized loan categories (defined as specific loans warranting either specific allocation, or a criticized status of special mention, substandard, doubtful, or loss). The methodology also focuses on evaluation of several 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. Because each of the criteria used is subject to change, the analysis of the allowance for loan losses is not necessarily indicative of the trend of future loan losses in any particular loan category. The total allowance for loan losses is available to absorb losses from any segment of the loan portfolio.

When an individual loan is determined to be impaired, the allowance for loan losses attributable to the loan is allocated based on management's estimate of the borrower's ability to repay the loan given the availability of collateral, other sources of cash flows, as well as evaluation of legal options available to the Corporation. The amount of impairment is measured based upon the present value of expected future cash flows discounted at the loan's effective interest rate, the fair value of the underlying collateral less applicable selling costs, or the observable market price of the loan. If foreclosure is probable or the loan is collateral dependent, impairment is measured using the fair value of the loan's collateral, less costs to sell. Large groups of homogeneous loans, such as residential mortgage, home equity, and other consumer, are collectively evaluated for impairment.

Management believes that the level of the allowance for loan losses is appropriate. While management uses currently available information to recognize losses on loans, future adjustments to the allowance for loan losses may be necessary based on newly received appraisals, updated commercial customer financial statements, rapidly deteriorating cash flow, and changes in economic conditions that affect our customers. In addition, various regulatory agencies, as an integral part of their examination process, periodically review the Corporation's allowance for loan losses. Such agencies may require additions to the allowance for loan losses or may require that certain loan balances be charged off or downgraded into criticized loan categories when their credit evaluations differ from those of management based on their judgments about information available to them at the time of their examinations. See Loans and Troubled Debt Restructurings above for further policy discussion and see Note 4 for additional information on the allowance for loan losses.

Other Real Estate Owned

Other real estate owned is included in other assets in the consolidated balance sheets and is comprised of property acquired through a foreclosure proceeding or acceptance of a deed-in-lieu of foreclosure, and loans classified as in-substance foreclosure. Other real estate owned is recorded at the fair value of the underlying property collateral, less estimated selling costs. This fair value becomes the new cost basis for the foreclosed asset. The initial write-down, if any, will be recorded as a charge off against the allowance for loan losses. Any subsequent write-downs to reflect current fair value, as well as gains and losses on disposition and revenues and expenses incurred in

maintaining such properties, are expensed as incurred. Other real estate owned also includes bank premises formerly but no longer used for banking as well as property originally acquired for future expansion but no longer intended to be used for that purpose. Banking premises are transferred at the lower of carrying value or fair value, less estimated selling costs and any write-down is expensed as incurred.

Allowance for Unfunded Commitments

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 in the consolidated balance sheets. The determination of the appropriate level of the allowance for unfunded commitments is based upon an evaluation of the unfunded credit facilities, including an assessment of historical commitment utilization experience and credit risk grading of the loan. Net adjustments to the allowance for unfunded commitments are included in the provision for credit losses in the consolidated statements of income. See Note 4 and Note 16 for additional information on the allowance for unfunded commitments.

Mortgage Repurchase Reserve

The Corporation sells residential mortgage loans to investors in the normal course of business. Residential mortgage loans sold to investors are predominantly conventional residential first lien mortgages originated under the usual underwriting procedures, and are most often sold on a nonrecourse basis, primarily to the Government Sponsored Enterprises ("GSE"). The Corporation's agreements to sell residential mortgage loans usually require certain representations and warranties on the underlying loans sold, related to credit information, loan documentation, collateral, and insurability, which if subsequently untrue or breached, could require the Corporation to indemnify or repurchase certain loans affected. To a much lesser degree, the Corporation may 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 indemnification or repurchase could be required if the loan had defined delinquency issues during the limited recourse periods. The balance in the repurchase reserve at the balance sheet date reflects the estimated amount of potential loss the Corporation could incur from repurchasing a loan ("put back" requests), as well as loss reimbursements, indemnification, and other settlement resolutions ("make whole" payments). See Note 16 for additional information on the mortgage repurchase reserve.

Premises and Equipment and Software

Premises and equipment are stated at cost less accumulated depreciation and amortization. Depreciation and amortization are computed on the straight-line method over the estimated useful lives of the related assets or the lease term. Maintenance and repairs are charged to expense as incurred, while additions or major improvements are capitalized and depreciated over the estimated useful lives. Leasehold improvements are amortized on a straight-line basis over the lesser of the lease terms or the estimated useful lives of the improvements. Software, included in other assets in the consolidated balance sheets, is amortized on a straight-line basis over the lesser of the contract terms or the estimated useful life of the software. See Note 6 for additional information on premises and equipment.

Goodwill and Intangible Assets

Goodwill and Other Intangible Assets: The excess of the cost of an acquisition over the fair value of the net assets acquired consists primarily of goodwill, core deposit intangibles, and other identifiable intangibles (primarily related to customer relationships acquired). Core deposit intangibles have estimated finite lives and are amortized on an accelerated basis to expense over a 10-year period. The other intangibles have estimated finite lives and are amortized on an accelerated basis to expense over their weighted average life (a weighted average life of 12 years for both 2016 and 2015). The Corporation reviews long-lived assets and certain identifiable intangibles for impairment at least annually, or whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable, in which case an impairment charge would be recorded.

Goodwill is not amortized but, instead, is 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 impairment testing process is conducted by assigning net assets and goodwill to each reporting unit. An initial qualitative evaluation is made to assess the likelihood of impairment and determine whether further quantitative testing to calculate the fair value is necessary. When the qualitative evaluation indicates that impairment is more likely than not, quantitative testing is required whereby the fair value of each reporting unit is calculated and compared to the recorded book value, "step one." If the calculated fair value of the reporting unit exceeds its carrying value, goodwill is not considered impaired and "step two" is not considered necessary. If the carrying value of a reporting unit exceeds its calculated fair value, the impairment test continues ("step two") by comparing the carrying value of the reporting unit's goodwill to the implied fair value of goodwill. The implied fair value is computed by adjusting all assets and liabilities of the reporting unit to current fair value with the offset adjustment to goodwill. The adjusted goodwill balance is the implied fair value of the goodwill. An impairment charge is recognized if the carrying value of goodwill exceeds the implied fair value of goodwill. See Note 5 for additional information on goodwill and other intangible assets.

Mortgage Servicing Rights: The Corporation sells residential mortgage loans in the secondary market and typically retains the right to service the loans sold. Upon sale, a mortgage servicing rights asset is capitalized, which represents the then current fair value of future net cash flows expected to be realized for performing servicing activities. Mortgage servicing rights, when purchased, are initially recorded at fair value. As the Corporation has not elected to subsequently measure any class of servicing assets under the fair value measurement method, the Corporation follows the amortization method. Mortgage servicing rights are amortized in proportion to and over the period of estimated net servicing income, and assessed for impairment at each reporting date. Mortgage servicing rights are carried at the lower of the initial capitalized amount, net of accumulated amortization, or estimated fair value, in the consolidated balance sheets.

The Corporation periodically evaluates its mortgage servicing rights asset for impairment. 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 5 for additional information on mortgage servicing rights.

Income Taxes

Amounts provided for income tax expense are based on income reported for financial statement purposes and do not necessarily represent amounts currently payable under tax laws. Deferred income taxes, which arise principally from temporary differences between the amounts reported in the financial statements and the tax bases of assets and liabilities, are included in the amounts provided for income taxes. In assessing the realizability of deferred tax assets, management considers whether it is more likely than not that some portion or all of the deferred tax assets will not be realized. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income and tax planning strategies which will create taxable income during the periods in which those temporary differences become deductible. Management considers the scheduled reversal of deferred tax liabilities, the amount of taxes paid in available carryback years, projected future taxable income, and, if necessary, tax planning strategies in making this assessment.

The Corporation files a consolidated federal income tax return and separate or combined state income tax returns. Accordingly, amounts equal to tax benefits of those subsidiaries having taxable federal or state losses or credits are offset by other subsidiaries that incur federal or state tax liabilities.

It is the Corporation's policy to provide for uncertainty in income taxes as a part of income tax expense based upon management's assessment of whether a tax benefit is more likely than not to be sustained upon examination by tax authorities. At December 31, 2016 and 2015, the Corporation believes it has appropriately accounted for any unrecognized tax benefits. To the extent the Corporation prevails in matters for which a liability for an unrecognized tax benefit was established or is required to pay amounts in excess of the liability established, the Corporation's effective tax rate in a given financial statement period may be effected. See Note 13 for additional information on income taxes.

Derivative and Hedging Activities

Derivative instruments, including derivative instruments embedded in other contracts, are carried at fair value on the consolidated balance sheets with changes in the fair value recorded to earnings or accumulated other comprehensive income, as appropriate. On the date the derivative contract is entered into, the Corporation designates the derivative as a fair value hedge (i.e., a hedge of the fair value of a recognized asset or liability), a cash flow hedge (i.e., a hedge of the variability of cash flows to be received or paid related to a recognized asset or liability), or a free-standing derivative instrument. For a derivative designated as a fair value hedge, the changes in the fair value of the derivative instrument and the changes in the fair value of the hedged asset or liability are recognized in current period earnings as an increase or decrease to the carrying value of the hedged item on the balance sheet and in the related income statement account. For a derivative designated as a cash flow hedge, the effective portions of changes in the fair value of the derivative instrument are recorded in other comprehensive income and the ineffective portions of changes in the fair value of a derivative instrument are recognized in current period earnings as an adjustment to the related income statement account. Amounts within accumulated other comprehensive income are reclassified into earnings in the period the hedged item affects earnings. For a derivative is designated as a free-standing derivative instrument, changes in fair value are reported in current period earnings. At December 31, 2016 and 2015, the Corporation only had free-standing derivative instruments to facilitate customer borrowing activity. These free-standing derivative instruments included: interest rate risk management, commodity hedging, and foreign currency exchange solutions. See Note 14 for additional information on derivative and hedging activities.

Retirement Plans

The funded status of the retirement plans are recognized as an asset or liability in the consolidated balance sheets, and changes in that funded status are recognized in the year in which the changes occur through other comprehensive income. Plan assets and benefit obligations are measured as of fiscal year end. The measurement of the projected benefit obligation and pension expense involve actuarial valuation methods and the use of various actuarial and economic assumptions. The Corporation monitors the assumptions and updates them periodically. Due to the long-term nature of the pension plan obligation, actual results may differ significantly from estimations. Such differences are adjusted over time as the assumptions are replaced by facts and values are recalculated. See Note 12 for additional information on the Corporation's retirement plans.

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 common 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. 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. See Note 11 for additional information on stock-based compensation.

Comprehensive Income

Comprehensive income includes all changes in stockholders' equity during a period, except those resulting from transactions with stockholders. In addition to net income, other components of the Corporation's comprehensive income include the after tax effect of changes in net unrealized gain / loss on securities available for sale and changes in net actuarial gain / loss on defined benefit postretirement plans. Comprehensive income is reported in the accompanying consolidated statements of changes in stockholder's equity and consolidated statements of comprehensive income. See Note 22 for additional information on accumulated other comprehensive income (loss).

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). As there is no active market for many of the Corporation's financial instruments, estimates are made using discounted cash flow or other valuation techniques. Inputs into the valuation methods are subjective in nature, involve uncertainties, and require significant judgment and therefore cannot be determined with precision. Accordingly, the derived fair value estimates presented herein are not necessarily indicative of the amounts the Corporation could realize in a current market exchange. Assets and liabilities are categorized into three levels based on the markets in which the assets and liabilities are traded and the reliability of the assumptions used to determine fair value. In instances where the determination of the fair value measurement is based on inputs from different levels of the fair value hierarchy, the level in the fair value hierarchy in which the entire fair value measurement falls is based on the lowest level input that is significant to the fair value measurement in its entirety. The Corporation's assessment of the significance of a particular input to the fair value measurement in its entirety requires judgment, and considers factors specific to the asset or liability. See Note 18 for additional information on fair value measurements. Below is a brief description of each fair value level.

Level 1 — Level 1 inputs utilize quoted prices (unadjusted) in active markets for identical assets or liabilities that the Corporation has the ability to access.

Level 2 — Level 2 inputs are inputs other than quoted prices included in Level 1 that are observable for the asset or liability, either directly or indirectly. Level 2 inputs may include quoted prices for similar assets and liabilities in active markets, as well as inputs that are observable for the asset or liability (other than quoted prices), such as interest rates, foreign exchange rates, and yield curves that are observable at commonly quoted intervals.

Level 3 — Level 3 inputs are unobservable inputs for the asset or liability, which are typically based on an entity's own assumptions, as there is little, if any, related market activity.

Cash and Cash Equivalents

For purposes of the consolidated statements of cash flows, cash and cash equivalents are considered to include cash and due from banks, interest-bearing deposits in other financial institutions, and federal funds sold and securities purchased under agreements to resell.

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, unvested restricted stock awards, and outstanding common stock warrants). See Note 20 for additional information on earnings per common share.

New Accounting Pronouncements Adopted

In December 2016, the FASB issued a technical corrections and improvements accounting standards update which makes minor amendments to the FASB Accounting Standards Codification. The four general topics covered in the guidance include: (1) amendments related to differences between original guidance and the codification, (2) guidance clarification and reference corrections, (3) simplification, and (4) minor improvements. The amendments that require transition guidance are effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2016. The amendments that require transition guidance are not applicable to the Corporation. All other amendments were effective upon the issuance of this update in December 2016. The Corporation adopted the accounting standard during the fourth quarter of 2016, as required, with no material impact on its results of operations, financial position, or liquidity.

In March 2016, the FASB issued an amendment involving several aspects of the accounting for share-based payment transactions, including the income tax consequences, classification of awards as either equity or liabilities, and classification on the statement of cash flows. This amendment is effective for annual periods, and interim periods within those annual periods, beginning after December 15, 2016. Entities should apply the amendment related to the timing of when excess tax benefits are recognized, minimum statutory withholding requirements, forfeitures, and intrinsic value using a modified retrospective transition method by means of a cumulative-effect adjustment to equity as of the beginning of the period in which the guidance is adopted. Entities should apply the amendment related to the presentation of employee taxes paid on the statement of cash flows when an employer withholds shares to meet the minimum statutory withholding requirement retrospectively. The amendment requiring recognition of excess tax benefits and tax deficiencies in the income statement and the practical expedient for estimating expected term should be applied prospectively. An entity may elect to apply the amendments related to the presentation of excess tax benefits on the statement of cash flows using either a prospective transition method or a retrospective transition method. The Corporation early adopted the accounting standard during the fourth quarter of 2016 and recognized a $1 million reduction in income taxes for the excess tax benefits on stock-based compensation. The remaining provisions of this accounting standard did not have a material impact.

In September 2015, the FASB issued an amendment to simplify the accounting for measurement adjustments to prior business combinations. The amendment requires that an acquirer recognize adjustments to provisional amounts that are identified during the measurement period in the reporting period in which the adjustment amounts are determined. The acquirer must record, in the same period's financial statements, the effect on earnings of changes in depreciation, amortization, or other income effects, if any, as a result of the change to the provisional amounts, calculated as if the accounting had been completed at the acquisition date. The amendment also requires an entity to present separately on the face of the income statement or disclose in the notes the portion of the amount recorded in current-period earnings by line item that would have been recorded in previous reporting periods if the adjustment to the provisional amounts had been recognized as of the acquisition date. This amendment was effective for fiscal years beginning after December 15, 2015, including interim periods within those fiscal years. The Corporation adopted the accounting standard during the first quarter of 2016, as required, with no material impact on its results of operations, financial position, or liquidity.

In May 2015, the FASB issued an amendment to eliminate the requirement to categorize investments measured using the net asset value per share ("NAV") practical expedient in the fair value hierarchy table. Entities are required to disclose the fair value of investments measured using the NAV practical expedient so that financial statement users can reconcile amounts reported in the fair value hierarchy table to amounts reported on the balance sheet. This amendment required retrospective application and was effective for fiscal years beginning after December 15, 2015, and interim periods within those fiscal years. The Corporation adopted the accounting standard during the first quarter of 2016, as required, with no material impact on its results of operations, financial position, or liquidity. See Note 12 for additional disclosure regarding reconciliation of the fair value hierarchy to the amounts presented in the balance sheet.

In April 2015, the FASB issued an amendment to provide guidance to customers about whether a cloud computing arrangement included a software license. If the cloud computing arrangement includes a software license, then the customer should account for the software license element consistent with the acquisition of other software licenses.

If a cloud computing arrangement does not include a software license, the customer should account for the arrangement as a service contract. This amendment was effective for annual periods, and interim periods within those annual periods, beginning after December 15, 2015. The Corporation adopted the accounting standard on a prospective basis during the first quarter of 2016, as required, with no material impact on its results of operations, financial position, or liquidity.

In April 2015, the FASB issued an amendment to simplify the presentation of debt issuance costs. This amendment requires that debt issuance costs related to a recognized debt liability be presented in the balance sheet as a direct deduction from the carrying amount of that debt liability, consistent with debt discounts. In August 2015, the FASB expanded this amendment to include SEC staff views related to debt issuance costs associated with line-of-credit arrangements. The SEC staff would not object to an entity deferring and presenting debt issuance costs as an asset and subsequently amortizing the deferred debt issuance costs over the term of the line-of-credit arrangement, regardless of whether there are any outstanding borrowings on the line-of-credit arrangement. This amendment required retrospective application and was effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2015. The Corporation adopted the accounting standard during the first quarter of 2016. All prior periods have been restated to reflect this change in presentation, resulting in a $3 million reduction to other assets and a corresponding $3 million reduction to long-term funding on the balance sheet compared to the amounts originally reported at December 31, 2015.

In February 2015, the FASB issued an amendment to modify existing consolidation guidance for reporting companies that are required to evaluate whether they should consolidate legal entities. The new standard will place more emphasis on risk of loss when determining a controlling financial interest. Frequency in the application of related-party guidance for determining a controlling financial interest will be reduced. Also, consolidation conclusions for public and private companies among several industries that make use of limited partnerships or VIEs changed. This amendment was effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2015. The Corporation adopted the accounting standard during the first quarter of 2016, as required, with no material impact on its results of operations, financial position, or liquidity.

In January 2015, the FASB issued an amendment to eliminate from U.S. GAAP the concept of extraordinary items. Presently, an event or transaction is presumed to be an ordinary and usual activity of the reporting entity unless evidence clearly supports its classification as an extraordinary item. If an event or transaction meets the criteria for extraordinary classification, an entity is required to segregate the extraordinary item from the results of ordinary operations and show the item separately in the income statement, net of tax, after income from continuing operations. The amended guidance prohibits separate disclosure of extraordinary items in the income statement. This amendment was effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2015. The Corporation adopted the accounting standard during the first quarter of 2016, as required, with no material impact.

In June 2014, the FASB issued an amendment to the stock compensation accounting guidance to clarify that a performance target that affects vesting of a share-based payment and that could be achieved after the requisite service period be treated as a performance condition. As such, the performance target should not be reflected in estimating the grant-date fair value of the award. Compensation cost should be recognized in the period in which it becomes probable that the performance target will be achieved and should represent the compensation cost attributable to the period(s) for which the requisite service has already been rendered. This amendment was effective for annual reporting periods, including interim periods within those annual periods, beginning after December 15, 2015. The Corporation adopted the accounting standard on a prospective basis during the first quarter of 2016, as required, with no material impact on its results of operations, financial position, or liquidity.

Note 2 Acquisitions

On February 17, 2015, the Corporation acquired Ahmann & Martin Co., a risk and employee benefits consulting firm based in Minnesota. The firm was merged into Associated Benefits and Risk Consulting ("ABRC"), the Corporation's insurance brokerage subsidiary. The Corporation's acquisition of Ahmann & Martin Co. enhanced the Corporation's ability to offer clients unique, comprehensive solutions to meet their insurance and financial risk

management needs. The transaction was valued at approximately $48 million with the opportunity to increase the consideration by $8 million should certain contingencies be met over a defined period.

The transaction was accounted for using the acquisition method of accounting and as such, assets acquired, liabilities assumed and consideration exchanged were recorded at their estimated fair value on the acquisition date. Goodwill from the acquisition represents the excess of the purchase price over the fair value of the net tangible and intangible assets acquired and is not deductible for tax purposes. As a result of the acquisition, the Corporation recorded goodwill of approximately $40 million and other intangible assets of approximately $12 million. Goodwill was assigned to the Corporation's Community, Consumer, and Business segment. See Note 5 for additional information on goodwill and other intangible assets.

During the first quarter of 2016, the Corporation completed two small insurance acquisitions to complement its existing insurance and benefits related products and services provided by ABRC. The Corporation recorded goodwill of $3 million and other intangibles of $1 million related to these insurance acquisitions.

Note 3 Investment Securities

Investment securities are generally classified as available for sale or held to maturity at the time of purchase. See Note 1 for the Corporation's accounting policy for investment securities. The majority of the Corporation's investment securities are mortgage-related securities issued by the Government National Mortgage Association ("GNMA") or GSEs such as the Federal National Mortgage Association ("FNMA") and the Federal Home Loan Mortgage Corporation ("FHLMC"). The amortized cost and fair values of securities available for sale and held to maturity were as follows.

December 31, 2016	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
		($ in Thousands)		
Investment securities available for sale:				
U. S. Treasury securities	$ 1,000	$ —	$ —	$ 1,000
Residential mortgage-related securities:				
FNMA / FHLMC	625,234	17,298	(2,602)	639,930
GNMA	2,028,301	1,372	(25,198)	2,004,475
Private-label	1,134	1	(14)	1,121
GNMA commercial mortgage-related securities	2,064,508	356	(35,966)	2,028,898
Other securities (debt and equity)	4,718	105	(21)	4,802
Total investment securities available for sale	$ 4,724,895	$ 19,132	$ (63,801)	$ 4,680,226
Investment securities held to maturity:				
Municipal securities	$ 1,145,843	$ 3,868	$ (12,036)	$ 1,137,675
Residential mortgage-related securities:				
FNMA / FHLMC	37,697	439	(693)	37,443
GNMA	89,996	216	(656)	89,556
Total investment securities held to maturity	$ 1,273,536	$ 4,523	$ (13,385)	$ 1,264,674

December 31, 2015	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
	($ in Thousands)			
Investment securities available for sale:				
U. S. Treasury securities	$ 999	$ —	$ (2)	$ 997
Residential mortgage-related securities:				
FNMA / FHLMC	1,388,995	33,791	(8,160)	1,414,626
GNMA	1,605,956	507	(16,460)	1,590,003
Private-label	1,722	1	(14)	1,709
GNMA commercial mortgage-related securities	1,982,477	1,334	(28,501)	1,955,310
Other securities (debt and equity)	4,718	51	—	4,769
Total investment securities available for sale	$ 4,984,867	$ 35,684	$ (53,137)	$ 4,967,414
Investment securities held to maturity:				
Municipal securities	$ 1,043,767	$ 16,803	$ (339)	$ 1,060,231
Residential mortgage-related securities:				
FNMA / FHLMC	41,469	513	(645)	41,337
GNMA	82,994	189	(309)	82,874
Total investment securities held to maturity	$ 1,168,230	$ 17,505	$ (1,293)	$ 1,184,442

The amortized cost and fair values of investment securities available for sale and held to maturity at December 31, 2016, are shown below. Expected maturities will differ from contractual maturities because borrowers may have the right to call or prepay obligations with or without call or prepayment penalties.

	Available for Sale		Held to Maturity	
	Amortized Cost	Fair Value	Amortized Cost	Fair Value
	($ in Thousands)			
Due in one year or less	$ 4,500	$ 4,479	$ 38,791	$ 28,517
Due after one year through five years	1,200	1,200	257,652	264,427
Due after five years through ten years	—	—	229,063	229,364
Due after ten years	—	—	620,337	615,367
Total debt securities	5,700	5,679	1,145,843	1,137,675
Residential mortgage-related securities:				
FNMA / FHLMC	625,234	639,930	37,697	37,443
GNMA	2,028,301	2,004,475	89,996	89,556
Private-label	1,134	1,121	—	—
GNMA commercial mortgage-related securities	2,064,508	2,028,898	—	—
Equity securities	18	123	—	—
Total investment securities	$ 4,724,895	$ 4,680,226	$ 1,273,536	$ 1,264,674
Ratio of Fair Value to Amortized Cost		99.1%		99.3%

During 2016 and 2015, the Corporation restructured its investment securities portfolio from FNMA and FHLMC mortgage-related securities and reinvested into GNMA mortgage-related securities. The Corporation sold approximately $550 million of FNMA and FHLMC mortgage-related securities in 2016 and sold approximately $1.6 billion in 2015, generating net gains on sales of $9 million and $8 million, respectively. The sales of FNMA and FHLMC mortgage-related securities and the subsequent purchase of GNMA mortgage-related securities lowered risk weighted assets and related capital requirements.

Total proceeds and gross realized gains and losses from sales of investment securities for each of the three years ended December 31 were as follows. There were no other-than-temporary impairment write-downs on investment securities for 2016, 2015, or 2014.

	2016	2015	2014
		($ in Thousands)	
Gross gains	$ 9,518	$ 12,270	$ 1,184
Gross losses	(202)	(4,137)	(690)
Investment securities gains, net	$ 9,316	$ 8,133	$ 494
Proceeds from sales of investment securities	$ 549,555	$ 1,601,947	$ 102,011

Securities with a carrying value of approximately $1.8 billion and $3.2 billion at December 31, 2016, and December 31, 2015, 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 December 31, 2016.

	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)				
Residential mortgage-related securities:								
FNMA / FHLMC	14	$ (2,602)	$ 244,252	—	$ —	$ —	$ (2,602)	$ 244,252
GNMA	54	(25,198)	1,723,523	—	—	—	(25,198)	1,723,523
Private-label	—	—	—	1	(14)	1,119	(14)	1,119
GNMA commercial mortgage-related securities	74	(16,445)	1,427,889	21	(19,521)	429,258	(35,966)	1,857,147
Other securities (debt and equity)	3	(21)	1,479	—	—	—	(21)	1,479
Total	145	$ (44,266)	$3,397,143	22	$ (19,535)	$430,377	$ (63,801)	$3,827,520
Investment securities held to maturity:								
Municipal securities	700	$ (11,937)	$ 414,186	4	$ (99)	$ 1,752	$ (12,036)	$ 415,938
Residential mortgage-related securities:								
FNMA / FHLMC	14	(441)	17,477	1	(252)	6,031	(693)	23,508
GNMA	39	(656)	64,633	—	—	—	(656)	64,633
Total	753	$ (13,034)	$ 496,296	5	$ (351)	$ 7,783	$ (13,385)	$ 504,079

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, 2015.

	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	$ (2)	$ 997	—	$ —	$ —	$ (2)	$ 997
Residential mortgage-related securities:								
FNMA / FHLMC	17	(1,548)	220,852	14	(6,612)	338,186	(8,160)	559,038
GNMA	46	(16,460)	1,434,484	—	—	—	(16,460)	1,434,484
Private-label	1	(1)	83	3	(13)	1,565	(14)	1,648
GNMA commercial mortgage-related securities	40	(9,610)	1,132,844	21	(18,891)	448,218	(28,501)	1,581,062
Total	105	$ (27,621)	$ 2,789,260	38	$ (25,516)	$787,969	$ (53,137)	$ 3,577,229
Investment securities held to maturity:								
Municipal securities	53	$ (146)	$ 23,137	24	$ (193)	$ 9,254	$ (339)	$ 32,391
Residential mortgage-related securities:								
FNMA / FHLMC	10	(177)	12,754	3	(468)	11,106	(645)	23,860
GNMA	21	(201)	45,499	3	(108)	6,797	(309)	52,296
Total	84	$ (524)	$ 81,390	30	$ (769)	$ 27,157	$ (1,293)	$ 108,547

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 December 31, 2016, 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 Corporation currently does not intend to sell nor does it believe that it will be required to sell the securities contained in the above unrealized losses table before recovery of their amortized cost basis. The increase in unrealized losses at December 31, 2016 is due to the increase in overall interest rates. The U.S. Treasury 3-year and 5-year rates increased by 16 basis points ("bp") and 17 bp, respectively, from December 31, 2015.

Federal Home Loan Bank ("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 December 31, 2016, and 2015, the Corporation had FHLB stock of $65 million and $74 million, respectively. The Corporation had Federal Reserve Bank stock of $75 million and $73 million at December 31, 2016 and 2015, respectively.

Note 4 Loans

Loans at December 31 are summarized below.

	2016	2015
	($ in Thousands)	
Commercial and industrial	$ 6,489,014	$ 6,190,683
Commercial real estate — owner occupied	897,724	918,212
Commercial and business lending	7,386,738	7,108,895
Commercial real estate — investor	3,574,732	3,234,266
Real estate construction	1,432,497	1,162,145
Commercial real estate lending	5,007,229	4,396,411
Total commercial	12,393,967	11,505,306
Residential mortgage	6,332,327	5,783,267
Home equity	934,443	1,005,802
Other consumer	393,979	419,968
Total consumer	7,660,749	7,209,037
Total loans	$ 20,054,716	$ 18,714,343

The Corporation has granted loans to their directors, executive officers, or their related interests. These loans were made on substantially the same terms, including rates and collateral, as those prevailing at the time for comparable transactions with other unrelated customers, and do not involve more than a normal risk of collection. These loans to related parties are summarized below.

	2016
	($ in Thousands)
Balance at beginning of year	$ 36,597
New loans	10,677
Repayments	(11,089)
Change due to status of executive officers and directors	(8,596)
Balance at end of year	$ 27,589

The following table presents commercial and consumer loans by credit quality indicator at December 31, 2016.

	Pass	Special Mention	Potential Problem	Nonaccrual	Total
			($ in Thousands)		
Commercial and industrial	$ 5,937,119	$ 141,328	$ 227,196	$ 183,371	$ 6,489,014
Commercial real estate - owner occupied	805,871	17,785	64,524	9,544	897,724
Commercial and business lending	6,742,990	159,113	291,720	192,915	7,386,738
Commercial real estate - investor	3,491,217	14,236	51,228	18,051	3,574,732
Real estate construction	1,429,083	105	2,465	844	1,432,497
Commercial real estate lending	4,920,300	14,341	53,693	18,895	5,007,229
Total commercial	11,663,290	173,454	345,413	211,810	12,393,967
Residential mortgage	6,275,162	1,314	5,615	50,236	6,332,327
Home equity	919,740	1,588	114	13,001	934,443
Other consumer	393,161	562	—	256	393,979
Total consumer	7,588,063	3,464	5,729	63,493	7,660,749
Total loans	$ 19,251,353	$ 176,918	$ 351,142	$ 275,303	$ 20,054,716

The following table presents commercial and consumer loans by credit quality indicator at December 31, 2015.

	Pass	Special Mention	Potential Problem	Nonaccrual	Total
			($ in Thousands)		
Commercial and industrial	$ 5,522,809	$ 341,169	$ 233,130	$ 93,575	$ 6,190,683
Commercial real estate - owner occupied	835,572	38,885	35,706	8,049	918,212
Commercial and business lending	6,358,381	380,054	268,836	101,624	7,108,895
Commercial real estate - investor	3,153,703	45,976	25,944	8,643	3,234,266
Real estate construction	1,157,034	252	3,919	940	1,162,145
Commercial real estate lending	4,310,737	46,228	29,863	9,583	4,396,411
Total commercial	10,669,118	426,282	298,699	111,207	11,505,306
Residential mortgage	5,727,437	1,552	2,796	51,482	5,783,267
Home equity	988,574	1,762	222	15,244	1,005,802
Other consumer	419,087	556	—	325	419,968
Total consumer	7,135,098	3,870	3,018	67,051	7,209,037
Total loans	$ 17,804,216	$ 430,152	$ 301,717	$ 178,258	$ 18,714,343

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. See Note 1 for the Corporation's accounting policy for loans.

For commercial loans, management has determined the pass credit quality indicator to include credits that exhibit 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 that are 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 that the Corporation will sustain some loss if the deficiencies are not corrected. Lastly,

management considers a loan to be 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. Commercial loans classified as special mention, potential problem, and nonaccrual loans are reviewed at a minimum on a quarterly basis, while pass 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 December 31, 2016.

	Current	30-59 Days Past Due	60-89 Days Past Due	90 Days or More Past Due [(a)]	Nonaccrual [(b)]	Total
			($ in Thousands)			
Commercial and industrial	$ 6,303,994	$ 965	$ 448	$ 236	$ 183,371	$ 6,489,014
Commercial real estate - owner occupied	886,796	968	416	—	9,544	897,724
Commercial and business lending	7,190,790	1,933	864	236	192,915	7,386,738
Commercial real estate - investor	3,555,750	431	500	—	18,051	3,574,732
Real estate construction	1,431,284	264	105	—	844	1,432,497
Commercial real estate lending	4,987,034	695	605	—	18,895	5,007,229
Total commercial	12,177,824	2,628	1,469	236	211,810	12,393,967
Residential mortgage	6,273,949	7,298	844	—	50,236	6,332,327
Home equity	915,593	4,265	1,584	—	13,001	934,443
Other consumer	389,157	2,471	718	1,377	256	393,979
Total consumer	7,578,699	14,034	3,146	1,377	63,493	7,660,749
Total loans	$19,756,523	$ 16,662	$ 4,615	$ 1,613	$ 275,303	$20,054,716

(a) The recorded investment in loans past due 90 days or more and still accruing totaled $2 million at December 31, 2016 (the same as the reported balances for the accruing loans noted above).

(b) Of the total nonaccrual loans, $224 million or 81% were current with respect to payment at December 31, 2016.

The following table presents loans by past due status at December 31, 2015.

	Current	30-59 Days Past Due	60-89 Days Past Due	90 Days or More Past Due [(a)]	Nonaccrual [(b)]	Total
			($ in Thousands)			
Commercial and industrial	$ 6,095,848	$ 602	$ 409	$ 249	$ 93,575	$ 6,190,683
Commercial real estate - owner occupied	903,021	7,142	—	—	8,049	918,212
Commercial and business lending	6,998,869	7,744	409	249	101,624	7,108,895
Commercial real estate - investor	3,225,332	291	—	—	8,643	3,234,266
Real estate construction	1,160,909	270	26	—	940	1,162,145
Commercial real estate lending	4,386,241	561	26	—	9,583	4,396,411
Total commercial	11,385,110	8,305	435	249	111,207	11,505,306
Residential mortgage	5,726,855	4,491	439	—	51,482	5,783,267
Home equity	982,639	6,190	1,729	—	15,244	1,005,802
Other consumer	416,374	1,195	675	1,399	325	419,968
Total consumer	7,125,868	11,876	2,843	1,399	67,051	7,209,037
Total loans	$18,510,978	$ 20,181	$ 3,278	$ 1,648	$ 178,258	$18,714,343

(a) The recorded investment in loans past due 90 days or more and still accruing totaled $2 million at December 31, 2015 (the same as the reported balances for the accruing loans noted above).

(b) Of the total nonaccrual loans, $124 million or 69% were current with respect to payment at December 31, 2015.

The following table presents impaired loans at December 31, 2016.

	Recorded Investment	Unpaid Principal Balance	Related Allowance	Average Recorded Investment	Interest Income Recognized
			($ in Thousands)		
Loans with a related allowance					
Commercial and industrial	$ 101,770	$ 107,813	$ 21,617	$ 111,211	$ 2,512
Commercial real estate — owner occupied	6,595	8,641	295	7,111	274
Commercial and business lending	108,365	116,454	21,912	118,322	2,786
Commercial real estate — investor	27,196	27,677	3,541	31,142	2,124
Real estate construction	1,203	1,566	441	1,321	67
Commercial real estate lending	28,399	29,243	3,982	32,463	2,191
Total commercial	136,764	145,697	25,894	150,785	4,977
Residential mortgage	62,362	67,090	11,091	63,825	2,263
Home equity	20,651	22,805	9,312	21,825	1,114
Other consumer	1,235	1,284	186	1,294	29
Total consumer	84,248	91,179	20,589	86,944	3,406
Total loans	$ 221,012	$ 236,876	$ 46,483	$ 237,729	$ 8,383
Loans with no related allowance					
Commercial and industrial	$ 113,485	$ 134,863	$ —	$ 117,980	$ 1,519
Commercial real estate — owner occupied	8,439	9,266	—	8,759	138
Commercial and business lending	121,924	144,129	—	126,739	1,657
Commercial real estate — investor	6,144	6,478	—	7,092	—
Real estate construction	—	—	—	—	—
Commercial real estate lending	6,144	6,478	—	7,092	—
Total commercial	128,068	150,607	—	133,831	1,657
Residential mortgage	5,974	6,998	—	6,610	184
Home equity	106	107	—	107	4
Other consumer	—	—	—	—	—
Total consumer	6,080	7,105	—	6,717	188
Total loans	$ 134,148	$ 157,712	$ —	$ 140,548	$ 1,845
Total					
Commercial and industrial	$ 215,255	$ 242,676	$ 21,617	$ 229,191	$ 4,031
Commercial real estate — owner occupied	15,034	17,907	295	15,870	412
Commercial and business lending	230,289	260,583	21,912	245,061	4,443
Commercial real estate — investor	33,340	34,155	3,541	38,234	2,124
Real estate construction	1,203	1,566	441	1,321	67
Commercial real estate lending	34,543	35,721	3,982	39,555	2,191
Total commercial	264,832	296,304	25,894	284,616	6,634
Residential mortgage	68,336	74,088	11,091	70,435	2,447
Home equity	20,757	22,912	9,312	21,932	1,118
Other consumer	1,235	1,284	186	1,294	29
Total consumer	90,328	98,284	20,589	93,661	3,594
Total impaired loans[(a)]	$ 355,160	$ 394,588	$ 46,483	$ 378,277	$ 10,228

(a) The net recorded investment (defined as recorded investment, net of the related allowance) of the impaired loans represented 78% of the unpaid principal balance at December 31, 2016.

The following table presents impaired loans at December 31, 2015.

	Recorded Investment	Unpaid Principal Balance	Related Allowance	Average Recorded Investment	Interest Income Recognized
			($ in Thousands)		
Loans with a related allowance					
Commercial and industrial	$ 57,785	$ 59,409	$ 8,162	$ 46,833	$ 855
Commercial real estate — owner occupied	9,705	9,804	448	10,087	412
Commercial and business lending	67,490	69,213	8,610	56,920	1,267
Commercial real estate — investor	27,822	29,444	1,831	28,278	1,914
Real estate construction	1,450	2,154	453	1,667	66
Commercial real estate lending	29,272	31,598	2,284	29,945	1,980
Total commercial	96,762	100,811	10,894	86,865	3,247
Residential mortgage	66,590	71,084	12,462	68,183	2,374
Home equity	21,769	23,989	10,118	22,624	1,147
Other consumer	1,154	1,225	195	1,199	30
Total consumer	89,513	96,298	22,775	92,006	3,551
Total loans	$ 186,275	$ 197,109	$ 33,669	$ 178,871	$ 6,798
Loans with no related allowance					
Commercial and industrial	$ 65,083	$ 72,259	$ —	$ 79,573	$ 1,657
Commercial real estate — owner occupied	6,221	6,648	—	6,534	15
Commercial and business lending	71,304	78,907	—	86,107	1,672
Commercial real estate — investor	2,736	2,840	—	2,763	90
Real estate construction	—	—	—	—	—
Commercial real estate lending	2,736	2,840	—	2,763	90
Total commercial	74,040	81,747	—	88,870	1,762
Residential mortgage	4,762	5,033	—	4,726	126
Home equity	544	544	—	544	30
Other consumer	—	—	—	—	—
Total consumer	5,306	5,577	—	5,270	156
Total loans	$ 79,346	$ 87,324	$ —	$ 94,140	$ 1,918
Total					
Commercial and industrial	$ 122,868	$ 131,668	$ 8,162	$ 126,406	$ 2,512
Commercial real estate — owner occupied	15,926	16,452	448	16,621	427
Commercial and business lending	138,794	148,120	8,610	143,027	2,939
Commercial real estate — investor	30,558	32,284	1,831	31,041	2,004
Real estate construction	1,450	2,154	453	1,667	66
Commercial real estate lending	32,008	34,438	2,284	32,708	2,070
Total commercial	170,802	182,558	10,894	175,735	5,009
Residential mortgage	71,352	76,117	12,462	72,909	2,500
Home equity	22,313	24,533	10,118	23,168	1,177
Other consumer	1,154	1,225	195	1,199	30
Total consumer	94,819	101,875	22,775	97,276	3,707
Total impaired loans[(a)]	$ 265,621	$ 284,433	$ 33,669	$ 273,011	$ 8,716

(a) The net recorded investment (defined as recorded investment, net of the related allowance) of the impaired loans represented 82% of the unpaid principal balance at December 31, 2015.

Troubled Debt Restructurings ("Restructured Loans"):

Loans are considered restructured loans if concessions have been granted to borrowers that are experiencing financial difficulty. See Note 1 for the Corporation's accounting policy for troubled debt restructurings. As of December 31, 2016 there was approximately $7 million of commitments to lend additional funds to borrowers with restructured loans. The following table presents nonaccrual and performing restructured loans by loan portfolio.

	December 31, 2016		December 31, 2015		December 31, 2014	
	Performing Restructured Loans	Nonaccrual Restructured Loans[a]	Performing Restructured Loans	Nonaccrual Restructured Loans[a]	Performing Restructured Loans	Nonaccrual Restructured Loans[a]
	($ in Thousands)					
Commercial and industrial	$ 31,884	$ 1,276	$ 29,293	$ 1,714	$ 33,892	$ 3,260
Commercial real estate — owner occupied	5,490	2,220	7,877	2,703	10,454	5,656
Commercial real estate — investor	15,289	924	21,915	3,936	23,127	15,216
Real estate construction	359	150	510	177	727	2,438
Residential mortgage	18,100	21,906	19,870	24,592	20,833	26,049
Home equity	7,756	2,877	7,069	4,522	8,209	4,838
Other consumer	979	32	829	40	974	199
Total restructured loans	$ 79,857	$ 29,385	$ 87,363	$ 37,684	$ 98,216	$ 57,656

(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 during the years ended December 31, 2016, 2015 and 2014, respectively, and the recorded investment and unpaid principal balance as of December 31, 2016, 2015 and 2014.

	Year Ended December 31, 2016			Year Ended December 31, 2015			Year Ended December 31, 2014		
	Number of Loans	Recorded Investment[a]	Unpaid Principal Balance[b]	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	8	$ 1,509	$ 1,526	12	$ 2,219	$ 2,900	15	$ 7,681	$ 7,711
Commercial real estate — owner occupied	1	116	122	5	3,694	3,901	4	1,465	1,625
Commercial real estate — investor	—	—	—	5	21,573	21,640	6	6,097	6,521
Real estate construction	1	65	91	4	78	79	2	15	15
Residential mortgage	63	5,535	5,792	97	10,464	10,996	163	19,675	20,454
Home equity	57	2,030	2,084	88	3,103	3,249	117	3,913	4,308
Other consumer	1	15	16	—	—	—	2	24	26
Total	131	$ 9,270	$ 9,631	211	$ 41,131	$ 42,765	309	$ 38,870	$ 40,660

(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. For the year ended December 31, 2016, restructured loan modifications of commercial and industrial, commercial real estate, and real estate construction loans primarily

included maturity date extensions, interest rate concessions, payment schedule modifications, or a combination of these concessions. 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 year ended December 31, 2016.

The following table provides the number of loans modified in a troubled debt restructuring during the previous twelve months which subsequently defaulted during the year ended December 31, 2016, 2015 and 2014, respectively, as well as the recorded investment in these restructured loans as of December 31, 2016, 2015 and 2014, respectively.

	Year Ended December 31, 2016		Year Ended December 31, 2015		Year Ended December 31, 2014	
	Number of Loans	**Recorded Investment**	**Number of Loans**	**Recorded Investment**	**Number of Loans**	**Recorded Investment**
			($ in Thousands)			
Commercial and industrial	—	$ —	2	$ 197	1	$ 52
Commercial real estate — owner occupied	—	—	—	—	3	785
Commercial real estate — investor	—	—	—	—	13	6,200
Real estate construction	—	—	—	—	1	160
Residential mortgage	44	4,102	61	6,815	80	10,032
Home equity	23	457	28	1,220	54	1,802
Other consumer	1	15	—	—	3	34
Total	68	$ 4,574	91	$ 8,232	155	$ 19,065

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, is 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. See Note 1 for the Corporation's accounting policy on the allowance for loan losses.

A summary of the changes in the allowance for loan losses by portfolio segment for the year ended December 31, 2016, 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, 2015	$ 129,959	$ 18,680	$ 43,018	$ 25,266	$ 28,261	$ 23,555	$ 5,525	$ 274,264
Charge offs	(71,016)	(512)	(1,504)	(558)	(4,332)	(4,686)	(3,831)	(86,439)
Recoveries	14,543	74	1,624	203	755	3,491	820	21,510
Net charge offs	(56,473)	(438)	120	(355)	(3,577)	(1,195)	(3,011)	(64,929)
Provision for loan losses	66,640	(4,208)	2,147	2,021	2,362	(1,996)	2,034	69,000
December 31, 2016	$ 140,126	$ 14,034	$ 45,285	$ 26,932	$ 27,046	$ 20,364	$ 4,548	$ 278,335
Allowance for loan losses:								
Individually evaluated for impairment	$ 20,836	$ —	$ 3,117	$ —	$ 147	$ 3	$ —	$ 24,103
Collectively evaluated for impairment	119,290	14,034	42,168	26,932	26,899	20,361	4,548	254,232
Total allowance for loan losses	$ 140,126	$ 14,034	$ 45,285	$ 26,932	$ 27,046	$ 20,364	$ 4,548	$ 278,335
Loans:								
Individually evaluated for impairment	$ 180,965	$ 8,439	$ 17,322	$ —	$ 7,033	$ 650	$ —	$ 214,409
Collectively evaluated for impairment	6,308,049	889,285	3,557,410	1,432,497	6,325,294	933,793	393,979	19,840,307
Total loans	$ 6,489,014	$ 897,724	$ 3,574,732	$ 1,432,497	$ 6,332,327	$934,443	$ 393,979	$20,054,716

For comparison purposes, a summary of the changes in the allowance for loan losses by portfolio segment for the year ended December 31, 2015, 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, 2014	$ 117,635	$ 16,510	$ 46,333	$ 20,999	$ 31,926	$ 26,464	$ 6,435	$ 266,302
Charge offs	(27,687)	(2,645)	(4,645)	(750)	(5,636)	(7,048)	(3,869)	(52,280)
Recoveries	9,821	921	4,157	2,268	1,077	3,233	765	22,242
Net charge offs	(17,866)	(1,724)	(488)	1,518	(4,559)	(3,815)	(3,104)	(30,038)
Provision for loan losses	30,190	3,894	(2,827)	2,749	894	906	2,194	38,000
December 31, 2015	$ 129,959	$ 18,680	$ 43,018	$ 25,266	$ 28,261	$ 23,555	$ 5,525	$ 274,264
Allowance for loan losses:								
Individually evaluated for impairment	$ 7,522	$ —	$ 229	$ —	$ 166	$ 46	$ —	$ 7,963
Collectively evaluated for impairment	122,437	18,680	42,789	25,266	28,095	23,509	5,525	266,301
Total allowance for loan losses	$ 129,959	$ 18,680	$ 43,018	$ 25,266	$ 28,261	$ 23,555	$ 5,525	$ 274,264
Loans:								
Individually evaluated for impairment	$ 91,569	$ 6,221	$ 5,460	$ —	$ 6,956	$ 1,281	$ —	$ 111,487
Collectively evaluated for impairment	6,099,114	911,991	3,228,806	1,162,145	5,776,311	1,004,521	419,968	18,602,856
Total loans	$ 6,190,683	$ 918,212	$ 3,234,266	$ 1,162,145	$ 5,783,267	$1,005,802	$ 419,968	$18,714,343

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 16 for additional information on the allowance for unfunded commitments and see Note 1 for the Corporation's accounting policy for allowance for unfunded commitments. A summary of the changes in the allowance for unfunded commitments was as follows.

	Years Ended December 31,		
	2016	2015	2014
		($ in Thousands)	
Allowance for Unfunded Commitments:			
Balance at beginning of period	$ 24,400	$ 24,900	$ 21,900
Provision for unfunded commitments	1,000	(500)	3,000
Balance at end of period	$ 25,400	$ 24,400	$ 24,900

Note 5 Goodwill and Other Intangible Assets

Goodwill: Goodwill is not amortized but, instead, is 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. See Note 1 for the Corporation's accounting policy for goodwill and other intangible assets.

The Corporation conducted its most recent annual impairment testing in May 2016, 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 increases 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 the 2016 annual qualitative impairment assessment indicated 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 were no events since the May 2016 impairment testing that have changed the Corporation's impairment assessment conclusion. There were no impairment charges recorded in 2016, 2015, or 2014.

At December 31, 2016, the Corporation had goodwill of $972 million, compared to $969 million at December 31, 2015 including goodwill of $428 million assigned to the Corporate and Commercial Specialty segment and the remaining assigned to the Community, Consumer and Business segment. There was an addition to the carrying amount of goodwill of approximately $3 million as a result of two small insurance acquisitions during the first quarter of 2016. See Note 2 for additional information on the Corporation's acquisitions.

Other Intangible Assets: The Corporation has other intangible assets that are amortized, consisting of core deposit intangibles, other intangibles (primarily related to customer relationships acquired in connection with the Corporation's insurance agency acquisitions), and mortgage servicing rights. Core deposit intangibles of approximately $15 million were fully amortized in 2015 and have been removed from both the gross carrying amount and the accumulated amortization for 2016. There was an addition to the gross carrying amount of other intangibles of $1 million for the customer relationships associated with two small insurance acquisitions that occurred during the first quarter of 2016. See Note 2 for additional information on the Corporation's acquisitions. For core deposit intangibles and other intangibles, changes in the gross carrying amount, accumulated amortization, and net book value were as follows.

	2016	2015	2014
		($ in Thousands)	
Core deposit intangibles:			
Gross carrying amount	$ 4,385	$ 19,545	$ 36,230
Accumulated amortization	(4,273)	(19,152)	(34,433)
Net book value	$ 112	$ 393	$ 1,797
Amortization during the year	$ 281	$ 1,404	$ 2,868
Other intangibles:			
Gross carrying amount	$ 32,410	$ 31,398	$ 19,283
Accumulated amortization	(17,145)	(15,333)	(13,643)
Net book value	$ 15,265	$ 16,065	$ 5,640
Additions during the period	$ 1,012	$ 12,115	$ —
Amortization during the year	$ 1,812	$ 1,690	$ 879

Mortgage Servicing Rights: The Corporation sells residential mortgage loans in the secondary market and typically retains the right to service the loans sold. Mortgage servicing rights are amortized in proportion to and over the period of estimated net servicing income, and assessed for impairment at each reporting date. See Note 1 for the Corporation's accounting policy for mortgage servicing rights. See Note 16 for a discussion of the recourse provisions on sold residential mortgage loans. See Note 18 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 was as follows.

	2016	2015	2014
		($ in Thousands)	
Mortgage servicing rights			
Mortgage servicing rights at beginning of year	$ 62,150	$ 61,379	$ 64,193
Additions	12,262	12,372	8,253
Amortization	(12,327)	(11,601)	(11,067)
Mortgage servicing rights at end of year	$ 62,085	$ 62,150	$ 61,379
Valuation allowance at beginning of year	(809)	(1,234)	(913)
(Additions) recoveries, net	200	425	(321)
Valuation allowance at end of year	(609)	(809)	(1,234)
Mortgage servicing rights, net	$ 61,476	$ 61,341	$ 60,145
Fair value of mortgage servicing rights	$ 73,149	$ 70,686	$ 66,342
Portfolio of residential mortgage loans serviced for others ("servicing portfolio")	$ 7,974,742	$ 7,915,224	$ 7,999,294
Mortgage servicing rights, net to servicing portfolio	0.77%	0.77%	0.75%
Mortgage servicing rights expense (1)	$ 12,127	$ 11,176	$ 11,388

(1) 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 following table shows the estimated future amortization expense for amortizing intangible assets. The projections of amortization expense are based on existing asset balances, the current interest rate environment, and prepayment speeds as of December 31, 2016. 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.

Estimated Amortization Expense	**Core Deposit Intangibles**	**Other Intangibles**	**Mortgage Servicing Rights**
		($ in Thousands)	
Year ending December 31,			
2017	$ 112	$ 1,786	$ 9,627
2018	—	1,756	8,134
2019	—	1,457	6,878
2020	—	1,340	5,840
2021	—	1,316	4,970
Beyond 2021	—	7,610	26,636
Total Estimated Amortization Expense	$ 112	$ 15,265	$ 62,085

Note 6 Premises and Equipment

See Note 1 for the Corporation's accounting policy for premises and equipment. A summary of premises and equipment at December 31 was as follows.

	2016				2015
	Estimated Useful Lives	Cost	Accumulated Depreciation	Net Book Value	Net Book Value
	($ in Thousands)				
Land	—	$ 57,471	$ —	$ 57,471	$ 52,104
Land improvements	3 – 15 years	12,572	5,929	6,643	6,661
Buildings	5 – 39 years	332,256	130,104	202,152	141,432
Computers	3 – 5 years	42,190	33,139	9,051	6,372
Furniture, fixtures and other equipment	3 – 15 years	162,253	119,704	42,549	49,794
Leasehold improvements	3 – 15 years	34,959	22,510	12,449	11,243
Total premises and equipment		$ 641,701	$ 311,386	$ 330,315	$ 267,606

Depreciation and amortization of premises and equipment totaled $32 million in 2016, $33 million in 2015, and $34 million in 2014.

The Corporation and certain subsidiaries are obligated under noncancelable operating leases for other facilities and equipment, certain of which provide for increased rentals based upon increases in cost of living adjustments and other operating costs. The approximate minimum annual rentals and commitments under these noncancelable agreements and leases with remaining terms in excess of one year are as follows.

	($ in Thousands)
2017	$ 9,711
2018	9,665
2019	9,115
2020	8,133
2021	7,336
Thereafter	20,940
Total	$ 64,900

Total rental expense under leases, net of lease income, totaled $8 million in 2016, $13 million in 2015, and $11 million in 2014, respectively. The reduction of rental expense in 2016 was mainly driven by $4 million of leasing income generated by the Milwaukee Center (which was purchased in April 2016).

Note 7 Deposits

The distribution of deposits at December 31 was as follows.

	2016	2015
	($ in Thousands)	
Noninterest-bearing demand	$ 5,392,208	$ 5,562,466
Savings	1,431,494	1,334,420
Interest-bearing demand	4,687,656	3,445,000
Money market	8,770,963	9,102,977
Brokered CDs	52,725	42,443
Other time	1,553,402	1,520,359
Total deposits	$ 21,888,448	$ 21,007,665

Time deposits of $100,000 or more were $571 million and $466 million at December 31, 2016 and 2015, respectively. Time deposits of $250,000 or more were $235 million and $127 million at December 31, 2016 and 2015, respectively.

Aggregate annual maturities of all time deposits at December 31, 2016, are as follows.

Maturities During Year Ending December 31,	($ in Thousands)
2017	$ 932,179
2018	276,642
2019	185,465
2020	131,820
2021	76,740
Thereafter	3,281
Total	$ 1,606,127

Note 8 Short-Term Funding

The components of short-term funding (funding with original contractual maturities of one year or less) at December 31 were as follows.

	2016	2015
	($ in Thousands)	
Federal funds purchased	$ 208,150	$ 47,870
Securities sold under agreements to repurchase	300,197	383,568
Federal funds purchased and securities sold under agreements to repurchase	508,347	431,438
FHLB advances	482,000	335,000
Commercial paper	101,688	67,978
Other short-term funding	583,688	402,978
Total short-term funding	$ 1,092,035	$ 834,416

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 15 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 December 31, 2016, the Corporation pledged agency mortgage-related securities with a fair value of $381 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 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)				
December 31, 2016					
Repurchase agreements					
Agency mortgage-related securities	$ 300,197	$ —	$ —	$ —	$ 300,197
Total	$ 300,197	$ —	$ —	$ —	$ 300,197
December 31, 2015					
Repurchase agreements					
Agency mortgage-related securities	$ 383,568	$ —	$ —	$ —	$ 383,568
Total	$ 383,568	$ —	$ —	$ —	$ 383,568

Note 9 Long-Term Funding

The components of long-term funding (funding with original contractual maturities greater than one year) at December 31 were as follows.

	2016	2015
	($ in Thousands)	
FHLB advances	$ 2,265,188	$ 1,750,225
Senior notes, at par	250,000	680,000
Subordinated notes, at par	250,000	250,000
Other long-term funding and capitalized costs	(3,393)	(4,061)
Total long-term funding	$ 2,761,795	$ 2,676,164

FHLB advances: At December 31, 2016, the long-term FHLB advances had maturity dates primarily ranging from 2018 through 2019, and had an average interest rate of 0.50%, compared to 0.23% at December 31, 2015. The majority of FHLB advances are indexed to the FHLB discount note and re-price at varying intervals. The advances offer flexible, low cost, long-term funding that improves the Corporation's liquidity profile.

2011 Senior Notes: In March 2011, the Corporation issued $300 million of senior notes due March 2016, and callable February 2016, with a 5.125% fixed coupon at a discount. In September 2011, the Corporation "re-opened" the offering and issued an additional $130 million of the same notes at a premium. All of the 2011 senior notes were redeemed in February 2016 at par.

2014 Senior Notes: 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.

2014 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.

Under agreements with the Federal Home Loan Bank of Chicago, FHLB advances (short-term and long-term) are secured by qualifying mortgages of the subsidiary bank (such as residential mortgage, residential mortgage loans held for sale, home equity, and commercial real estate) and by specific investment securities for certain FHLB advances. At December 31, 2016, the Corporation had $6 billion of total collateral capacity supported by residential mortgage and home equity loans. Total short-term and long-term FHLB advances outstanding at December 31, 2016, was $2.7 billion.

The table below summarizes the maturities of the Corporation's long-term funding at December 31, 2016.

Year	($ in Thousands)
2017	$ 5
2018	1,865,000
2019	498,939
2020	164
2021	150,000
Thereafter	247,687
Total long-term funding	$ 2,761,795

Note 10 Stockholders' Equity

Preferred Equity: In September 2011, the Corporation issued 2,600,000 depositary shares, each representing a 1/40th interest in a share of the Corporation's 8.00% Non-Cumulative Perpetual Preferred Stock, Series B, liquidation preference $1,000 per share (the "Series B Preferred Stock"). Dividends on the Series B Preferred Stock were payable quarterly in arrears only when, as and if declared by the Board of Directors at a rate per annum equal to 8.00%. Shares of the Series B Preferred Stock had priority over the Corporation's common stock with regard to the payment of dividends and distributions upon liquidation, dissolution or winding up. As such, the Corporation could not pay dividends on or repurchase, redeem, or otherwise acquire for consideration shares of its common stock unless dividends for the Series B Preferred Stock had been declared for that period, and sufficient funds had been set aside to make payment. The Series B Preferred Stock was redeemable by the Corporation at its option (i) either in whole or in part, from time to time, on any dividend payment date on or after the dividend payment date occurring on September 15, 2016, or (ii) in whole but not in part, at any time within 90 days following certain regulatory capital treatment events, in each case at a redemption price of $1,000 per share (equivalent to $25 per depositary share), plus any applicable dividends. Except in certain limited circumstances, the Series B Preferred Stock did not have any voting rights.

On July 23, 2013, the Board of Directors authorized the purchase of up to $10 million of the Corporation's Series B Preferred Stock. During 2015, the Corporation repurchased approximately 50,000 depositary shares for $1 million. On September 15, 2016, the Corporation redeemed all remaining depositary shares for $59 million.

In June 2015, the Corporation issued 2,600,000 depositary shares, each representing a 1/40th interest in a share of the Corporation's 6.125% Non-Cumulative Perpetual Preferred Stock, Series C, liquidation preference $1,000 per share (the "Series C Preferred Stock"). Dividends on the Series C Preferred Stock are payable quarterly in arrears only when, as and if declared by the Board of Directors at a rate per annum equal to 6.125%. Shares of the Series C Preferred Stock have priority over the Corporation's common stock with regard to the payment of dividends and distributions upon liquidation, dissolution or winding up. As such, the Corporation may not pay dividends on or repurchase, redeem, or otherwise acquire for consideration shares of its common stock unless dividends for the

Series C Preferred Stock have been declared for that period, and sufficient funds have been set aside to make payment. The Series C Preferred Stock may be redeemed by the Corporation at its option (i) either in whole or in part, from time to time, on any dividend payment date on or after the dividend payment date occurring on June 15, 2020, or (ii) in whole but not in part, at any time within 90 days following certain regulatory capital treatment events, in each case at a redemption price of $1,000 per share (equivalent to $25 per depositary share), plus any applicable dividends. Except in certain limited circumstances, the Series C Preferred Stock does not have any voting rights.

On August 28, 2015, the Board of Directors authorized the repurchase of up to $10 million of the Series C Preferred Stock. The Corporation has not repurchased any of the Series C Preferred Stock under this authorization. As of December 31, 2016, $10 million remained available under this repurchase authorization.

In September 2016, the Corporation issued 4,000,000 depositary shares, each representing a 1/40th interest in a share of the Corporation's 5.375% Non-Cumulative Perpetual Preferred Stock, Series D, liquidation preference $1,000 per share (the "Series D Preferred Stock"). Dividends on the Series D Preferred Stock are payable quarterly in arrears only when, as and if declared by the Board of Directors at a rate per annum equal to 5.375%. Shares of the Series D Preferred Stock have priority over the Corporation's common stock with regard to the payment of dividends and distributions upon liquidation, dissolution or winding up. As such, the Corporation may not pay dividends on or repurchase, redeem, or otherwise acquire for consideration shares of its common stock unless dividends for the Series D Preferred Stock have been declared for that period, and sufficient funds have been set aside to make payment. The Series D Preferred Stock may be redeemed by the Corporation at its option (i) either in whole or in part, from time to time, on any dividend payment date on or after the dividend payment date occurring on September 15, 2021, or (ii) in whole but not in part, at any time within 90 days following certain regulatory capital treatment events, in each case at a redemption price of $1,000 per share (equivalent to $25 per depositary share), plus any applicable dividends. Except in certain limited circumstances, the Series D Preferred Stock does not have any voting rights.

Common Stock Warrants: In November 2008, under the Capital Purchase Program, the Corporation issued a 10-year warrant to purchase approximately 4 million shares of common stock. The Common Stock Warrants have a term of 10 years and are exercisable at any time, in whole or in part, at an exercise price of $19.77 per share (subject to certain anti-dilution adjustments). On December 6, 2011, the U.S. Department of Treasury closed an underwritten secondary public offering of the warrants, each representing the right to purchase one share of common stock, par value $0.01 per share, of the Corporation. The public offering price and the allocation of the warrants in the secondary public warrant offering by the U.S. Treasury were determined by an auction process and the Corporation received no proceeds from the public offering.

Subsidiary Equity: At December 31, 2016, subsidiary equity equaled $3.2 billion. See Note 19 for additional information on regulatory requirements for the Bank.

Stock Repurchases: The Board of Directors authorized the repurchase of common stock during 2015. During 2016, the Corporation repurchased 1 million shares for $20 million (or an average cost per common share of $17.10), all of which were returned to authorized but unissued shares. During 2015, the Corporation repurchased 5 million shares for $93 million (or an average cost per common share of $18.73) all of which were returned to authorized but unissued shares. The Corporation also repurchased shares for minimum tax withholding settlements on equity compensation totaling approximately $5 million (293,000 shares at an average cost per common share of $17.30) during 2016 compared to repurchases of shares for minimum tax withholding settlements on equity compensation totaling approximately $5 million (285,000 shares at an average cost per common share of $17.87) for 2015. As of December 31, 2016, approximately $88 million remained available to repurchase shares of common stock under previously approved Board of Director authorizations. 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.

Other Comprehensive Income (Loss): See the Consolidated Statements of Comprehensive Income for a summary of activity in other comprehensive income (loss) and see Note 22 for a summary of the components of accumulated other comprehensive income (loss).

Note 11 Stock-Based Compensation

Stock-Based Compensation Plan:

In March 2013, the Board of Directors, with subsequent approval of the Corporation's shareholders, approved the adoption of the 2013 Incentive Compensation Plan ("2013 Plan"). As of December 31, 2016, approximately 7 million shares remained available for grant under the 2013 Plan.

Under the 2013 Plan, options are generally exercisable up to 10 years from the date of grant, have an exercise price that is equal to the closing price of the Corporation's stock on the grant date, and vest ratably over four years.

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 2013 Plan. The shares of restricted stock are restricted as to transfer, but are not restricted as to dividend payment or voting rights. Restricted stock units receive dividend equivalents but do not have voting rights. The transfer restrictions lapse over three or four years, depending upon whether the awards are performance-based or service-based. Performance-based awards are based on earnings per share performance goals, relative total shareholder return, and continued employment or meeting the requirements for retirement and service-based awards are contingent upon continued employment or meeting the requirements for retirement. Performance-based restricted stock awards vest over the three year performance period and service-based restricted stock awards vest ratably over four years.

The 2013 Plan provides that restricted stock awards and stock options will immediately become fully vested upon retirement from the Corporation of those colleagues whose retirement meets the early retirement or normal retirement definitions under the plan ("retirement eligible colleagues"). See Note 1 for the Corporation's accounting policy for stock based compensation.

Accounting for Stock-Based Compensation:

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 that 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 2016, 2015 and 2014.

	2016	2015	2014
Dividend yield	2.50%	2.00%	2.00%
Risk-free interest rate	2.00%	2.00%	2.00%
Weighted average expected volatility	25.00%	20.00%	20.00%
Weighted average expected life	5.5 years	6 years	6 years
Weighted average per share fair value of options	$3.36	$3.08	$3.00

A summary of the Corporation's stock option activity for the year ended December 31, 2016 is presented below.

Stock Options	Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term	Aggregate Intrinsic Value (000s)
Outstanding at December 31, 2015	6,629,143	$ 17.22	6.24	$ 18,730
Granted	1,302,298	17.45		
Exercised	(1,389,146)	14.81		
Forfeited or expired	(184,452)	21.62		
Outstanding at December 31, 2016	6,357,843	$ 17.67	6.10	$ 47,902
Options Exercisable at December 31, 2016	3,632,749	$ 17.85	4.45	$ 28,109

The following table summarizes information about the Corporation's nonvested stock option activity for the year ended December 31, 2016.

Nonvested Stock Options	Shares	Weighted Average Grant Date Fair Value
Nonvested at December 31, 2015	2,438,898	$ 3.15
Granted	1,302,298	3.36
Vested	(909,361)	3.27
Forfeited	(106,741)	3.39
Nonvested at December 31, 2016	2,725,094	$ 3.21

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 years ended December 31, 2016, 2015, and 2014 the intrinsic value of stock options exercised was $9 million, $7 million, and $4 million, respectively. The total fair value of stock options that vested was $3 million, $6 million and $7 million, respectively, for the years ended December 31, 2016, 2015, and 2014. For the years ended December 31, 2016, 2015, and 2014, the Corporation recognized compensation expense of $4 million, $4 million, and $6 million respectively, for the vesting of stock options. Included in compensation expense for 2016 was approximately $940,000 of expense for the accelerated vesting of stock options granted to retirement eligible colleagues. At December 31, 2016, the Corporation had $5 million of unrecognized compensation expense related to stock options that is expected to be recognized over the remaining requisite service periods that extend predominantly through the fourth quarter 2019.

The following table summarizes information about the Corporation's restricted stock activity for the year ended December 31, 2016.

Restricted Stock	Shares	Weighted Average Grant Date Fair Value
Outstanding at December 31, 2015	2,250,028	$ 17.03
Granted	1,095,596	17.58
Vested	(864,617)	16.62
Forfeited	(103,627)	17.59
Outstanding at December 31, 2016	2,377,380	$ 17.40

The Corporation amortizes the expense related to restricted stock awards as compensation expense over the vesting period specified in the grant. Expense for restricted stock awards of approximately $18 million, $15 million, and $10 million was recorded for the years ended December 31, 2016, 2015, and 2014, respectively. Included in compensation expense for 2016 was approximately $3 million of expense for the accelerated vesting of restricted stock awards granted to retirement eligible colleagues. The Corporation had $20 million of unrecognized

compensation costs related to restricted stock awards at December 31, 2016, that is expected to be recognized over the remaining requisite service periods that extend predominantly through fourth quarter 2019.

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. As described in Note 10, the Board of Directors has authorized management to repurchase shares of the Corporation's common stock each quarter 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 12 Retirement Plan

The Corporation has a noncontributory defined benefit retirement plan (the Retirement Account Plan ("RAP")) covering substantially all full-time employees. 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 provided healthcare access for eligible retired employees in its Postretirement Plan (the "Postretirement Plan"). The Postretirement Plan was frozen during 2016. The Corporation has no plan assets attributable to the Postretirement Plan. The Corporation reserves the right to make changes to the Postretirement Plan at any time.

The funded status and amounts recognized in the 2016 and 2015 consolidated balance sheets, as measured on December 31, 2016 and 2015, respectively, for the Retirement Account and Postretirement Plans were as follows.

	Retirement Account Plan 2016	Postretirement Plan 2016	Retirement Account Plan 2015	Postretirement Plan 2015
	($ in Thousands)			
Change in Fair Value of Plan Assets				
Fair value of plan assets at beginning of year	$ 289,599	$ —	$ 303,496	$ —
Actual return on plan assets	17,097	—	495	—
Employer contributions	—	248	—	264
Gross benefits paid	(10,978)	(248)	(14,392)	(264)
Fair value of plan assets at end of year*	$ 295,718	$ —	$ 289,599	$ —
Change in Benefit Obligation				
Net benefit obligation at beginning of year	$ 171,783	$ 3,436	$ 171,333	$ 3,578
Service cost	6,780	—	11,257	—
Interest cost	7,121	142	6,617	141
Plan amendments	(823)	(936)	—	—
Actuarial (gain) loss	2,942	9	(3,032)	(19)
Gross benefits paid	(10,978)	(248)	(14,392)	(264)
Net benefit obligation at end of year*	$ 176,825	$ 2,403	$ 171,783	$ 3,436
Funded (unfunded) status	$ 118,893	$ (2,403)	$ 117,816	$ (3,436)
Noncurrent assets	118,893	—	117,816	—
Current liabilities	—	(215)	—	(274)
Noncurrent liabilities	—	(2,188)	—	(3,162)
Asset (Liability) Recognized in the Consolidated Balance Sheets	$ 118,893	$ (2,403)	$ 117,816	$ (3,436)

* The fair value of the plan assets represented 167% and 169% of the net benefit obligation of the pension plan at December 31, 2016 and 2015, respectively.

Amounts recognized in accumulated other comprehensive loss, net of tax, as of December 31, 2016 and 2015 follow.

	Retirement Account Plan 2016	Postretirement Plan 2016	Retirement Account Plan 2015	Postretirement Plan 2015
	($ in Thousands)			
Prior service cost	$ (342)	$ (580)	$ 122	$ —
Net actuarial loss	35,443	79	32,879	73
Amount not yet recognized in net periodic benefit cost, but recognized in accumulated other comprehensive loss	$ 35,101	$ (501)	$ 33,001	$ 73

Other changes in plan assets and benefit obligations recognized in other comprehensive income (loss) ("OCI"), net of tax, in 2016 and 2015 were as follows.

	Retirement Account Plan 2016	Postretirement Plan 2016	Retirement Account Plan 2015	Postretirement Plan 2015
	($ in Thousands)			
Net gain (loss)	$ (6,132)	$ (9)	$ (17,911)	$ 19
Amortization of prior service cost	(73)	—	50	—
Amortization of actuarial gain	2,115	—	2,256	—
Plan amendments	823	936	—	—
Income tax (expense) benefit	1,168	(353)	5,880	(7)
Total Recognized in OCI	$ (2,099)	$ 574	$ (9,725)	$ 12

The components of net periodic benefit cost for the Retirement Account Plan and Postretirement Plans for 2016, 2015, and 2014 were as follows.

	Retirement Account Plan 2016	Postretirement Plan 2016	Retirement Account Plan 2015	Postretirement Plan 2015	Retirement Account Plan 2014	Postretirement Plan 2014
	($ in Thousands)					
Service cost	$ 6,780	$ —	$ 11,257	$ —	$ 11,058	$ —
Interest cost	7,121	142	6,617	141	7,132	150
Expected return on plan assets	(20,287)	—	(21,438)	—	(19,922)	—
Amortization of:						
Prior service cost	(73)	—	50	—	58	—
Actuarial (gain) loss	2,115	—	2,256	—	1,384	(35)
Total net pension cost	$ (4,344)	$ 142	$ (1,258)	$ 141	$ (290)	$ 115

As of December 31, 2016, the estimated actuarial losses and prior service cost that will be amortized during 2017 from accumulated other comprehensive income into net periodic benefit cost for the Retirement Account Plan include expense of $2 million for actuarial losses and income of $0.1 million for the prior service cost. For the Postretirement Plan, the estimated prior service cost that will be amortized during 2017 from accumulated other comprehensive income into periodic net benefit cost was income of $0.1 million.

	Retirement Account Plan 2016	Postretirement Plan 2016	Retirement Account Plan 2015	Postretirement Plan 2015
Weighted average assumptions used to determine benefit obligations:				
Discount rate	4.10%	4.10%	4.30%	4.30%
Rate of increase in compensation levels	4.00%	NA	4.00%	NA
Weighted average assumptions used to determine net periodic benefit costs:				
Discount rate	4.30%	4.30%	4.00%	4.00%
Rate of increase in compensation levels	4.00%	NA	4.00%	NA
Expected long-term rate of return on plan assets	7.00%	NA	7.50%	NA

The overall expected long-term rates of return on the Retirement Account Plan assets were 7.00% for 2016 and 7.50% for 2015, respectively. The expected long-term (more than 20 years) rate of return was estimated using market benchmarks for equities and bonds applied to the Retirement Account Plan's anticipated asset allocations. The expected return on equities was computed utilizing a valuation framework, which projected future returns based on current equity valuations rather than historical returns. The actual rate of return for the Retirement Account Plan assets was 6.36% and 0.43% for 2016 and 2015, respectively.

The Retirement Account Plan's investments are exposed to various risks, such as interest rate, market, and credit risks. Due to the level of risks associated with certain investments and the level of uncertainty related to changes in the value of the investments, it is at least reasonably possible that changes in risks in the near term could materially affect the amounts reported. The investment objective for the Retirement Account Plan is to maximize total return with a tolerance for average risk. The plan has a diversified portfolio designed to provide liquidity, current income, and growth of income and principal, with anticipated asset allocation ranges of: equity securities 50-70%, fixed income securities 30-50%, other cash equivalents 0-5%, and alternative securities 0-15%. Based on changes in economic and market conditions, the Corporation could be outside of the allocation ranges for brief periods of time. The asset allocation for the Retirement Account Plan as of the December 31, 2016 and 2015 measurement dates, respectively, by asset category were as follows.

Asset Category	2016	2015
Equity securities	60%	60%
Fixed income securities	39%	40%
Other	1%	—%
Total	100%	100%

The Retirement Account Plan assets include cash equivalents, such as money market accounts, mutual funds, and common / collective trust funds (which include investments in equity and bond securities). Money market accounts are stated at cost plus accrued interest, mutual funds are valued at quoted market prices and investments in common / collective trust funds are valued at the amount at which units in the funds can be withdrawn. Based on these inputs, the following table summarizes the fair value of the Retirement Account Plan's investments as of December 31, 2016 and 2015.

	December 31, 2016	Fair Value Measurements Using		
		Level 1	Level 2	Level 3
	($ in Thousands)			
Retirement Account Plan Investments:				
Money market account	$ 3,624	$ 3,624	$ —	$ —
Common /collective trust funds	126,741	126,741	—	—
Mutual funds	165,353	165,353	—	—
Total Retirement Account Plan Investments	$ 295,718	$ 295,718	$ —	$ —

	December 31, 2015	Fair Value Measurements Using		
		Level 1	Level 2	Level 3
	($ in Thousands)			
Retirement Account Plan Investments:				
Money market account	$ 481	$ 481	$ —	$ —
Common /collective trust funds	120,136	120,136	—	—
Mutual funds	168,982	168,982	—	—
Total Retirement Account Plan Investments	$ 289,599	$ 289,599	$ —	$ —

The Corporation's funding policy is to pay at least the minimum amount required by the funding requirements of federal law and regulations, with consideration given to the maximum funding amounts allowed. The Corporation regularly reviews the funding of its Retirement Account Plan.

The projected benefit payments for the Retirement Account and Postretirement Plans at December 31, 2016, reflecting expected future services, were as follows. The projected benefit payments were calculated using the same assumptions as those used to calculate the benefit obligations listed above.

	Retirement Account Plan	Postretirement Plan
	($ in Thousands)	
Estimated future benefit payments:		
2017	$ 14,829	$ 215
2018	14,538	199
2019	14,169	179
2020	13,815	177
2021	13,651	174
2022-2026	71,433	815

The health care trend rate is an assumption as to how much the Postretirement Plan's medical costs will increase each year in the future. The health care trend rate assumption for pre-65 coverage is 8.0% for 2016, and 0.5%-0.25% lower in each succeeding year, to an ultimate rate of 5% for 2024 and future years. The health care trend rate assumption for post-65 coverage is 7.5% for 2016, and 0.5%-0.25% lower in each succeeding year, to an ultimate rate of 5% for 2023 and future years.

A one percentage point change in the assumed health care cost trend rate would have the following effect.

	2016		2015	
	100 bp Increase	100 bp Decrease	100 bp Increase	100 bp Decrease
	($ in Thousands)			
Effect on total of service and interest cost	$ 7	$ (6)	$ 15	$ (13)
Effect on postretirement benefit obligation	$ 173	$ (149)	$ 357	$ (310)

The Corporation also has a 401(k) and Employee Stock Ownership Plan (the "401(k) plan"). The Corporation's contribution is determined by the Compensation and Benefits Committee of the Board of Directors. Total expense related to contributions to the 401(k) plan was $14 million, $11 million, and $10 million in 2016, 2015, and 2014, respectively.

Note 13 Income Taxes

The current and deferred amounts of income tax expense (benefit) were as follows.

	Years Ended December 31,		
	2016	2015	2014
	($ in Thousands)		
Current:			
Federal	$ 73,781	$ 82,449	$ 74,646
State	2,885	2,560	1,000
Total current	76,666	85,009	75,646
Deferred:			
Federal	3,338	(10,606)	(805)
State	7,318	7,084	10,695
Total deferred	10,656	(3,522)	9,890
Total income tax expense	$ 87,322	$ 81,487	$ 85,536

Temporary differences between the amounts reported in the financial statements and the tax bases of assets and liabilities resulted in deferred taxes. Deferred tax assets and liabilities at December 31 were as follows.

	2016	2015
	($ in Thousands)	
Deferred tax assets:		
Allowance for loan losses	$ 100,891	$ 106,258
Allowance for other losses	11,080	10,906
Accrued liabilities	5,969	6,802
Deferred compensation	33,169	31,677
State net operating losses	7,882	14,154
Nonaccrual interest	1,085	1,901
Net unrealized losses on available-for-sale securities	16,980	219
Net unrealized losses on pension and postretirement benefits	21,218	20,404
Other	8,128	5,811
Total deferred tax assets	206,402	198,132
Deferred tax liabilities:		
FHLB stock dividends	—	2,165
Prepaid expenses	70,943	69,396
Goodwill	27,365	25,770
Mortgage banking activities	17,569	15,704
Deferred loan fee income	16,474	17,770
State deferred taxes	3,800	6,366
Lease financing	1,975	3,042
Bank premises and equipment	7,698	7,491
Other	8,594	9,062
Total deferred tax liabilities	154,418	156,766
Net deferred tax assets	$ 51,984	$ 41,366

At December 31, 2016 and 2015, there was no valuation allowance for deferred tax assets. Management has determined that it is more likely than not that these assets could be realized through carry back to taxable income in prior years, future reversals of existing taxable temporary differences and future taxable income. This conclusion is based on the Corporation's historical earnings, its current level of earnings and prospects for continued growth and profitability.

At December 31, 2016, the Corporation had state net operating loss carryforwards of $100 million (of which, $16 million was acquired from various acquisitions) that will begin expiring in 2032.

The effective income tax rate differs from the statutory federal tax rate. The major reasons for this difference were as follows.

	2016	2015	2014
Federal income tax rate at statutory rate	35.0 %	35.0 %	35.0 %
Increases (decreases) resulting from:			
Tax-exempt interest and dividends	(4.8)%	(5.0)%	(4.6)%
State income taxes (net of federal benefit)	2.3 %	2.3 %	2.8 %
Bank owned life insurance	(1.7)%	(1.2)%	(1.7)%
Tax effect of tax credits and benefits, net of related expenses	(0.8)%	(0.5)%	(1.4)%
Tax reserve adjustments	0.3 %	(0.6)%	0.7 %
Other	0.1 %	0.2 %	0.2 %
Effective income tax rate	30.4 %	30.2 %	31.0 %

Savings banks acquired by the Corporation in 1997 and 2004 qualified under provisions of the Internal Revenue Code that permitted them to deduct from taxable income an allowance for bad debts that differed from the provision for such losses charged to income for financial reporting purposes. Accordingly, no provision for income taxes has been made for $100 million of retained income at December 31, 2016. If income taxes had been provided, the deferred tax liability would have been approximately $40 million. Management does not expect this amount to become taxable in the future, therefore, no provision for income taxes has been made.

The Corporation and its subsidiaries file income tax returns in the U.S. federal jurisdiction and various state jurisdictions. The Corporation's federal income tax returns are open and subject to examination from the 2013 tax return year and forward. The years open to examination by state and local government authorities varies by jurisdiction.

A reconciliation of the beginning and ending amount of unrecognized tax benefits was as follows.

	2016	2015
	($ in Millions)	
Balance at beginning of year	$ 9	$ 9
Subtractions for tax positions related to prior years	—	(2)
Additions for tax positions related to current year	1	2
Balance at end of year	$ 10	$ 9

At December 31, 2016 and 2015, the total amount of unrecognized tax benefits that, if recognized, would affect the effective tax rate was $7 million and $6 million, respectively.

The Corporation recognizes interest and penalties accrued related to unrecognized tax benefits in the income tax expense line of the consolidated statements of income. Interest and penalty expense (benefit) was $0 and $(1) million, as of December 31, 2016 and 2015, respectively. At December 31, 2016 and 2015, accrued interest and penalties was $2 million. Management does not anticipate significant adjustments to the total amount of unrecognized tax benefits within the next twelve months.

Note 14 Derivative and Hedging Activities

The Corporation facilitates customer borrowing activity by providing various interest rate risk management, commodity hedging, and foreign currency exchange solutions through its capital markets area. To date, all of the notional amounts of customer transactions have been matched with a mirror hedge with another counterparty. The Corporation has used, and may use again in the future, derivative instruments to hedge the variability in interest payments or protect the value of certain assets and liabilities recorded on its consolidated balance sheets from

changes in interest rates. The predominant derivative and hedging activities include interest rate-related instruments (swaps and caps), foreign currency exchange forwards, commodity contracts, written options, purchased options, and certain mortgage banking activities.

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. The Corporation was required to pledge $40 million of investment securities as collateral at December 31, 2016, and pledged $9 million of investment securities as collateral at December 31, 2015. Federal regulations require the Corporation to clear all LIBOR interest rate swaps through a clearing house if it can be cleared. As such, the Corporation is required to pledge cash collateral for the margin. At December 31, 2016, the Corporation posted no cash collateral for the margin, compared to $22 million at December 31, 2015.

The Corporation's derivative and hedging instruments are recorded at fair value on the consolidated balance sheets. The fair value of the Corporation's interest rate-related 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 18 for additional fair value information and disclosures and see Note 1 for the Corporation's accounting policy for derivative and hedging activities.

Derivatives to Accommodate Customer Needs

The Corporation enters into various derivative contracts which are not designated as hedging instruments. Such derivative products are entered into primarily for the benefit of commercial customers seeking to manage their exposures to interest rate, foreign currency, and commodity price risks. These derivative contracts are not designated against specific assets and liabilities on the balance sheet 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 market fees, net, and typically include interest rate-related instruments (swaps and caps), foreign currency exchange forwards, and commodity contracts. See Note 15 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 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 risk management services to customers, primarily forward contracts. Our 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. Such foreign currency exchange contracts are carried at fair value on the consolidated balance sheets with changes in fair value recorded as a component of capital market fees, net.

Commodity contracts: The Corporation provides commodity risk management services to commercial customers, exclusively oil and gas 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. Commodity contracts are carried at fair value on the consolidated balance sheets with changes in fair value recorded as a component of capital market fees, net.

The table below identifies the balance sheet category and fair values of the Corporation's derivative instruments to accommodate customer needs which are not designated as hedging instruments.

	December 31, 2016			December 31, 2015		
	Notional Amount	Fair Value	Balance Sheet Category	Notional Amount	Fair Value	Balance Sheet Category
	($ in Thousands)					
Interest rate-related instruments — customer and mirror	$ 2,039,323	$ 33,671	Trading assets	$ 1,665,965	$ 29,391	Trading assets
Interest rate-related instruments — customer and mirror	2,039,323	(33,188)	Trading liabilities	1,665,965	(30,886)	Trading liabilities
Foreign currency exchange forwards	109,675	2,002	Trading assets	72,976	1,532	Trading assets
Foreign currency exchange forwards	106,251	(1,943)	Trading liabilities	65,649	(1,398)	Trading liabilities
Commodity contracts	127,582	16,725	Trading assets	44,380	1,269	Trading assets
Commodity contracts	128,368	(15,972)	Trading liabilities	44,256	(1,146)	Trading liabilities

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 balance sheet category and fair values of the Corporation's derivative instruments which are not designated as hedging instruments.

	December 31, 2016			December 31, 2015		
	Notional Amount	Fair Value	Balance Sheet Category	Notional Amount	Fair Value	Balance Sheet Category
	($ in Thousands)					
Interest rate lock commitments (mortgage)	$ 285,345	$ 206	Other assets	$ 271,530	$ 958	Other assets
Forward commitments (mortgage)	179,600	2,908	Other assets	231,798	403	Other assets
Purchased options (time deposit)	80,554	2,576	Other assets	104,582	2,715	Other assets
Written options (time deposit)	80,554	(2,576)	Other liabilities	104,582	(2,715)	Other liabilities

The table below identifies the income statement category of the gains and losses recognized in income on the Corporation's derivative instruments not designated as hedging instruments.

	Income Statement Category of Gain / (Loss) Recognized in Income	For the Year Ended December 31,	
		2016	2015
		($ in Thousands)	
Interest rate-related instruments — customer and mirror, net	Capital market fees, net	$ 1,978	$ 854
Interest rate lock commitments (mortgage)	Mortgage banking, net	(752)	(989)
Forward commitments (mortgage)	Mortgage banking, net	2,505	2,838
Foreign currency exchange forwards	Capital market fees, net	(75)	(49)
Commodity contracts	Capital market fees, net	630	123

Note 15 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 creates a single net settlement 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 14 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 8 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 we have with our commercial customers are not subject to an enforceable master netting arrangement, and therefore, are excluded from this table.

				Gross amounts not offset in the balance sheet		
	Gross amounts recognized	Gross amounts offset in the balance sheet	Net amounts presented in the balance sheet	Financial instruments	Collateral	Net amount
			($ in Thousands)			
December 31, 2016						
Derivative assets:						
Interest and commodity agreements	$ 18,031	$ —	$ 18,031	$ (18,031)	$ —	$ —
Derivative liabilities:						
Interest and commodity agreements	$ 31,075	$ —	$ 31,075	$ (18,031)	$ (11,148)	$ 1,896
December 31, 2015						
Derivative assets:						
Interest and commodity agreements	$ 1,466	$ —	$ 1,466	$ (1,466)	$ —	$ —
Derivative liabilities:						
Interest and commodity agreements	$ 30,200	$ —	$ 30,200	$ (1,466)	$ (28,734)	$ —

Note 16 Commitments, Off-Balance Sheet Arrangements, and Legal Proceedings

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 14). The following is a summary of lending-related commitments.

	2016	2015
	($ in Thousands)	
Commitments to extend credit, excluding commitments to originate residential mortgage loans held for sale[1][2]	$ 8,131,131	$ 7,402,518
Commercial letters of credit[1]	7,923	9,945
Standby letters of credit[3]	259,632	296,508

(1) 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 December 31, 2016 and 2015.

(2) Interest rate lock commitments to originate residential mortgage loans held for sale are considered derivative instruments and are disclosed in Note 14.

(3) The Corporation has established a liability of $3 million at both December 31, 2016 and December 31, 2015, 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 $25 million at December 31, 2016 compared to $24 million at December 31, 2015, and is included in accrued expenses and other liabilities on the consolidated balance sheets. See Note 1 for the Corporation's accounting policy on the allowance for unfunded commitments. See Note 4 for additional information on the allowance for unfunded commitments.

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 14. 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 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 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 unconsolidated projects including

low-income housing, new market tax credit projects, and historic tax credit projects to promote the revitalization of primarily low-to-moderate-income neighborhoods throughout the local communities of its bank subsidiary. As a limited partner in these unconsolidated projects, the Corporation is allocated tax credits and deductions associated with the underlying projects. The aggregate carrying value of these investments at December 31, 2016, was $85 million, compared to $52 million at December 31, 2015, included in other assets on the consolidated balance sheets. Related to these investments, the Corporation had remaining commitments to fund of $69 million at December 31, 2016, and $61 million at December 31, 2015.

Contingent Liabilities and 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.

A lawsuit, *R.J. ZAYED v. Associated Bank, N.A.*, was filed in the United States District Court for the District of Minnesota on January 29, 2013. The lawsuit relates to a Ponzi scheme perpetrated by Oxford Global Partners and related entities ("Oxford") and individuals and was brought by the receiver for Oxford. Oxford was a depository customer of the Bank. The lawsuit claims that the Bank is liable for failing to uncover the Oxford Ponzi scheme, and specifically alleges the Bank aided and abetted (1) the fraudulent scheme; (2) a breach of fiduciary duty; (3) conversion; and (4) false representations and omissions. The lawsuit seeks unspecified consequential and punitive damages. The District Court granted the Bank's motion to dismiss the complaint on September 30, 2013. On March 2, 2015, the U.S. Court of Appeals for the Eighth Circuit reversed the District Court and remanded the case back to the District Court for further proceedings. On January 31, 2017, the District Court granted the Bank's motion for summary judgment, and the case was dismissed with prejudice. The plaintiff has appealed this decision to the U.S. Court of Appeals for the Eighth Circuit. It is not possible for management to assess the probability of a material adverse outcome or reasonably estimate the amount of any potential loss at this time. A lawsuit by investors in the same Ponzi scheme, *Herman Grad, et al v. Associated Bank, N.A.,* brought in Brown County, Wisconsin in October 2009 was dismissed by the circuit court, and the dismissal was affirmed by the Wisconsin Court of Appeals in June 2011 in an unpublished opinion.

On May 22, 2015, the Bank entered into a Conciliation Agreement ("Conciliation Agreement") with the U.S. Department of Housing and Urban Development ("HUD"), which resolved the HUD investigation into the Bank's lending practices during the years 2008-2010. The Bank's commitments under the Conciliation Agreement are spread over a three-year period and include commitments to do the following in minority communities: make mortgage loans of approximately $196 million; open one branch and four loan production offices; establish special

financing programs; make affordable home repair grants; engage in affirmative marketing outreach; provide financial education programs; and make grants to support community reinvestment training and education. The cost of these commitments will be spread over four calendar years and is not expected to have a material impact on the Corporation's financial condition or results of operation.

A variety of consumer products, including legacy debt protection and identity protection products provided by third parties, and mortgage and deposit products, and certain fees and charges related to such products, including overdraft and similar fees, have come under increased regulatory scrutiny by the CFPB, the OCC, and state attorneys general. 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 and the fees and other charges related thereto. 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.

Two complaints were filed against the Bank on January 11, 2016 in the United States Bankruptcy Court for the Northern District of Illinois, Eastern Division in connection with the *In re: World Marketing Chicago, LLC, et al* Chapter 11 bankruptcy proceeding. In the first complaint, *The Official Committee of Unsecured Creditors of World Marketing Chicago, LLC, et al v. Associated Bank, N.A.,* the plaintiff seeks to avoid guarantees and pledges of collateral given by the debtors to secure a revolving financing commitment of $6 million to the debtors' parent company from the Bank. The plaintiff alleges a variety of legal theories under federal and state law, including fraudulent conveyance, preferential transfer and conversion, in support of its position. The plaintiff seeks return of approximately $4 million paid to the Bank and the avoidance of the security interest in the collateral securing the remaining indebtedness to the Bank. The Bank intends to vigorously defend this lawsuit. In the second complaint, *American Funds Service Company v. Associated Bank, N.A.,* the plaintiff alleges that approximately $600,000 of funds it had advanced to the World Marketing entities to apply towards future postage fees was swept by the Bank from World Marketing's bank accounts. Plaintiff seeks the return of such funds from the Bank under several theories, including Sec. 541(d) of the Bankruptcy Code, the creation of a resulting trust, and unjust enrichment. The Bank intends to vigorously defend this lawsuit. It is not possible for management to assess the probability of a material adverse outcome or reasonably estimate the amount of any potential loss at this time with respect to these two lawsuits.

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 our 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 $2 million and $3 million during the years ended December 31, 2016 and 2015, respectively. The loss reimbursement and settlement claims paid for the years ended December 31, 2016 and 2015, respectively, were negligible. Make whole requests during 2015 and 2016 generally arose from loans sold during the period of January 1, 2012 to December 31, 2016, which totaled $9.2 billion at the time of sale, and consisted primarily of loans sold to GSEs. As of December 31, 2016, approximately $6.1 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 years ended as follows.

	2016	2015
	($ in Thousands)	
Balance at beginning of year	$ 1,197	$ 3,258
Repurchase provision expense	456	428
Adjustments to provision expense	(750)	(2,450)
Charge offs, net	(3)	(39)
Balance at end of year	$ 900	$ 1,197

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 December 31, 2016, and December 31, 2015, there were approximately $62 million and $68 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 December 31, 2016 and December 31, 2015, there were $98 million and $132 million, respectively, of such residential mortgage loans with credit risk recourse, upon which there have been negligible historical losses to the Corporation.

Note 17 Parent Company Only Financial Information

Presented below are condensed financial statements for the Parent Company.

BALANCE SHEETS

	December 31,	
	2016	2015
	($ in Thousands)	
ASSETS		
Cash and due from banks	$ 402,786	$ 610,862
Investment securities available for sale, at fair value	14,389	61,847
Investment in subsidiaries	3,248,763	3,211,685
Other assets	61,242	70,595
Total assets	$ 3,727,180	$ 3,954,989
LIABILITIES AND STOCKHOLDERS' EQUITY		
Commercial paper	$ 101,688	$ 67,978
Senior notes, at par	250,000	680,000
Subordinated notes, at par	250,000	250,000
Long-term funding capitalized costs	(3,393)	(4,061)
Total long-term funding	496,607	925,939
Accrued expenses and other liabilities	37,573	23,826
Total liabilities	635,868	1,017,743
Preferred equity	159,929	121,379
Common equity	2,931,383	2,815,867
Total stockholders' equity	3,091,312	2,937,246
Total liabilities and stockholders' equity	$ 3,727,180	$ 3,954,989

STATEMENTS OF INCOME

	For the Years Ended December 31,		
	2016	2015	2014
	($ in Thousands)		
INCOME			
Dividends from subsidiaries	$ 188,000	$ 205,000	$ 223,000
Interest income on notes receivable	—	—	1,264
Other income	4,669	8,441	9,713
Total income	192,669	213,441	233,977
EXPENSE			
Interest expense on short and long-term funding	21,901	39,576	24,847
Other expense	4,289	4,684	776
Total expense	26,190	44,260	25,623
Income before income tax expense (benefit) and equity in undistributed net income (loss) of subsidiaries	166,479	169,181	208,354
Income tax expense (benefit)	3,468	(1,665)	(5,801)
Income before equity in undistributed net income (loss) of subsidiaries	163,011	170,846	214,155
Equity in undistributed net income (loss) of subsidiaries	37,263	17,455	(23,646)
Net income	200,274	188,301	190,509
Preferred stock dividends	8,903	7,155	5,002
Net income available to common equity	$ 191,371	$ 181,146	$ 185,507

STATEMENTS OF CASH FLOWS

	For the Years Ended December 31,		
	2016	2015	2014
	($ in Thousands)		
OPERATING ACTIVITIES			
Net income	$ 200,274	$ 188,301	$ 190,509
Adjustments to reconcile net income to net cash provided by operating activities:			
(Increase) decrease in equity in undistributed net income of subsidiaries	(37,263)	(17,455)	23,646
Gain on sales of investment securities, net	(466)	—	(214)
Asset gain, net	(793)	(5,673)	(5,609)
Net change in other assets and other liabilities	19,708	(10,997)	(14,022)
Net cash provided by operating activities	181,460	154,176	194,310
INVESTING ACTIVITIES			
Proceeds from sales of investment securities	47,719	13,962	88,844
Net decrease in notes receivable	—	—	46,594
Purchase of other assets, net of disposals	2,211	11,964	10,930
Net cash provided by investing activities	49,930	25,926	146,368
FINANCING ACTIVITIES			
Net increase (decrease) in short-term funding	33,710	(6,319)	8,813
Repayment of long-term funding	(430,000)	—	(155,000)
Proceeds from issuance of long-term funding	—	—	496,030
Proceeds from issuance of common stock for stock-based compensation plans	21,748	20,054	13,228
Proceeds from issuance of preferred stock	97,066	62,966	—
Redemption of preferred stock	(58,903)	—	—
Purchase of preferred stock	(1,248)	(1,335)	(2,451)
Purchase of common stock returned to authorized but unissued	(20,007)	(93,000)	(150,498)
Purchase of treasury stock	—	—	(108,600)
Purchase of treasury stock for tax withholding	(5,074)	(5,154)	(3,712)
Cash dividends on common stock	(67,855)	(62,400)	(58,710)
Cash dividends on preferred stock	(8,903)	(7,155)	(5,002)
Net cash provided by (used in) financing activities	(439,466)	(92,343)	34,098
Net increase (decrease) in cash and cash equivalents	(208,076)	87,759	374,776
Cash and cash equivalents at beginning of year	610,862	523,103	148,327
Cash and cash equivalents at end of year	$ 402,786	$ 610,862	$ 523,103

Note 18 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). See Note 1 for the Corporation's accounting policy for fair value measurements.

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 1 or 2 of the fair value hierarchy. See Note 3 for additional disclosure regarding the Corporation's investment securities.

Derivative financial instruments (interest rate-related instruments): The Corporation has used, and may use again in the future, interest rate swaps to manage its interest rate risk. In addition, the Corporation offers interest rate-related instruments (swaps and caps) to service our 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 14 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 December 31, 2016, and 2015, 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 our 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 are classified in Level 2 of the fair value hierarchy. See Note 14 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 instrument, and are classified in Level 2 of the fair value hierarchy. See Note 14 for additional disclosures regarding the Corporation's commodity contracts.

Derivative financial instruments (mortgage derivatives): Mortgage derivatives include interest rate lock commitments to originate residential mortgage loans held for sale to individual customers and forward commitments to sell residential mortgage loans to various investors. The Corporation relies on an internal valuation model to estimate the fair value of its interest rate lock commitments to originate residential mortgage loans held for sale, which includes grouping the interest rate lock commitments by interest rate and terms, applying an estimated pull-through rate based on historical experience, and then multiplying by quoted investor prices determined to be reasonably applicable to the loan commitment groups based on interest rate, terms, and rate lock expiration dates of the loan commitment groups.

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 14 for additional disclosure regarding the Corporation's mortgage derivatives.

The table below presents the Corporation's investment securities available for sale and derivative financial instruments measured at fair value on a recurring basis as of December 31, 2016 and 2015, aggregated by the level in the fair value hierarchy within which those measurements fall.

Assets and Liabilities Measured at Fair Value on a Recurring Basis

	Fair Value Hierarchy	December 31, 2016	December 31, 2015
		($ in Thousands)	
Assets:			
Investment securities available for sale:			
U.S. Treasury securities	Level 1	$ 1,000	$ 997
Residential mortgage-related securities:			
FNMA / FHLMC	Level 2	639,930	1,414,626
GNMA	Level 2	2,004,475	1,590,003
Private-label	Level 2	1,121	1,709
GNMA commercial mortgage-related securities	Level 2	2,028,898	1,955,310
Other securities (debt and equity)	Level 1	1,602	1,569
Other securities (debt and equity)	Level 2	3,000	3,000
Other securities (debt and equity)	Level 3	200	200
Total investment securities available for sale	Level 1	2,602	2,566
Total investment securities available for sale	Level 2	4,677,424	4,964,648
Total investment securities available for sale	Level 3	200	200
Interest rate-related instruments	Level 2	33,671	29,391
Foreign currency exchange forwards	Level 2	2,002	1,532
Interest rate lock commitments to originate residential mortgage loans held for sale	Level 3	206	958
Forward commitments to sell residential mortgage loans	Level 3	2,908	403
Commodity contracts	Level 2	16,725	1,269
Purchased options (time deposit)	Level 2	2,576	2,715
Liabilities:			
Interest rate-related instruments	Level 2	$ 33,188	$ 30,886
Foreign currency exchange forwards	Level 2	1,943	1,398
Commodity contracts	Level 2	15,972	1,146
Written options (time deposit)	Level 2	2,576	2,715

The table below presents a rollforward of the balance sheet amounts for the years ended December 31, 2016 and 2015, for financial instruments measured on a recurring basis and classified within Level 3 of the fair value hierarchy.

	Investment Securities Available for Sale	Derivative Financial Instruments
	($ in Thousands)	
Balance December 31, 2014	$ 200	$ (488)
Total net gains included in income:		
Mortgage derivative gain	—	1,849
Balance December 31, 2015	$ 200	$ 1,361
Total net gains included in income:		
Mortgage derivative gain	—	1,753
Balance December 31, 2016	$ 200	$ 3,114

For Level 3 assets and liabilities measured at fair value on a recurring basis as of December 31, 2016, 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 significant unobservable input used in the fair value measurement of the Corporation's mortgage derivative interest rate lock commitments is the closing ratio, which represents the percentage of loans currently in a lock position which management estimates will ultimately close. The closing ratio calculation takes into consideration historical data and loan-level data, 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 December 31, 2016, the closing ratio was 90%.

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.

Loans Held for Sale: Loans held for sale, which consist generally of current production of certain fixed-rate, first-lien residential mortgage loans, and certain syndicated commercial loans, once a decision has been made to sell such loans, are carried at the lower of cost or estimated fair value. The estimated fair value was based on what secondary markets are currently offering for portfolios with similar characteristics, which the Corporation classifies as a Level 2 nonrecurring fair value measurement. The amount by which cost exceeds estimated fair value is accounted for as a market valuation adjustment. A market valuation adjustment occurred on mortgage loans held for sale due to interest rates rising on rate locked loans, while commercial loans held for sale had a valuation adjustment due to deteriorated credit quality on two loans.

Other Real Estate Owned: During 2016 and 2015, 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 December 31, 2016, 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. 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, resulting in an average discount of approximately 20%. See Note 4 for additional information regarding the Corporation's impaired loans.

Mortgage servicing rights: Mortgage servicing rights 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, which were 10.8% and 9.6% at December 31, 2016, respectively. 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 5 for additional disclosure regarding the Corporation's mortgage servicing rights.

The table below presents the Corporation's loans held for sale, impaired loans, and mortgage servicing rights measured at fair value on a nonrecurring basis, aggregated by the level in the fair value hierarchy within which those measurements fall.

Assets and Liabilities Measured at Fair Value on a Nonrecurring Basis

	Fair Value Hierarchy	Fair Value	Income Statement Category of Adjustment Recognized in Income	Adjustment Recognized in Income
			($ in Thousands)	
December 31, 2016				
Assets:				
Commercial loans held for sale	Level 2	$ 12,474	Provision for credit losses	$ (559)
Mortgage loans held for sale	Level 2	108,010	Mortgage banking, net	(3,760)
Impaired loans (1)	Level 3	79,270	Provision for credit losses	(75,194)
Other real estate owned	Level 2	9,752	Foreclosure / OREO expense, net	(1,091)
Mortgage servicing rights	Level 3	73,149	Mortgage banking, net	200
December 31, 2015				
Assets:				
Mortgage loans held for sale	Level 2	$ 124,915	Mortgage banking, net	$ (155)
Impaired loans (1)	Level 3	41,891	Provision for credit losses	(7,796)
Other real estate owned	Level 2	10,988	Foreclosure / OREO expense, net	(2,653)
Mortgage servicing rights	Level 3	70,686	Mortgage banking, net	425

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

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.

Fair Value of Financial Instruments:

The Corporation is required to disclose estimated fair values for its financial instruments. Fair value estimates, methods, and assumptions are set forth below for the Corporation's financial instruments.

		December 31, 2016		December 31, 2015	
	Fair Value Hierarchy Level	Carrying Amount	Fair Value	Carrying Amount	Fair Value
		($ in Thousands)			
Financial assets:					
Cash and due from banks	Level 1	$ 446,558	$ 446,558	$ 374,921	$ 374,921
Interest-bearing deposits in other financial institutions	Level 1	149,175	149,175	79,764	79,764
Federal funds sold and securities purchased under agreements to resell	Level 1	46,500	46,500	19,000	19,000
Investment securities held to maturity	Level 2	1,273,536	1,264,674	1,168,230	1,184,442
Investment securities available for sale	Level 1	2,602	2,602	2,566	2,566
Investment securities available for sale	Level 2	4,677,424	4,677,424	4,964,648	4,964,648
Investment securities available for sale	Level 3	200	200	200	200
FHLB and Federal Reserve Bank stocks	Level 2	140,001	140,001	147,240	147,240
Loans held for sale	Level 2	120,484	120,484	124,915	124,915
Loans, net	Level 3	19,776,381	19,680,317	18,440,079	18,389,832
Bank owned life insurance	Level 2	585,290	585,290	583,019	583,019
Derivatives (trading and other assets)	Level 2	54,974	54,974	34,907	34,907
Derivatives (trading and other assets)	Level 3	3,114	3,114	1,361	1,361
Financial liabilities:					
Noninterest-bearing demand, savings, interest-bearing demand, and money market accounts	Level 3	$ 20,282,321	$ 20,282,321	$ 19,444,863	$ 19,444,863
Brokered CDs and other time deposits	Level 2	1,606,127	1,606,127	1,562,802	1,564,464
Short-term funding	Level 2	1,092,035	1,092,035	834,416	834,416
Long-term funding	Level 2	2,761,795	2,791,841	2,676,164	2,728,112
Standby letters of credit [(1)]	Level 2	2,566	2,566	2,954	2,954
Derivatives (trading and other liabilities)	Level 2	53,679	53,679	36,145	36,145

(1) The commitment on standby letters of credit was $260 million and $297 million at December 31, 2016 and 2015, respectively. See Note 16 for additional information on the standby letters of credit and for information on the fair value of lending-related commitments.

Cash and due from banks, interest-bearing deposits in other financial institutions, and federal funds sold and securities purchased under agreements to resell—For these short-term instruments, the carrying amount is a reasonable estimate of fair value.

Investment securities (held to maturity and available for sale)—The fair value of investment securities is based on quoted prices in active markets, or if quoted prices are not available for a specific security, then fair values are estimated by using pricing models, quoted prices of securities with similar characteristics, or discounted cash flows.

FHLB and Federal Reserve Bank stocks—The carrying amount is a reasonable fair value estimate for the Federal Reserve Bank and FHLB stocks given their "restricted" nature (i.e., the stock can only be sold back to the respective institutions (FHLB or Federal Reserve Bank) or another member institution at par).

Loans held for sale—The fair value estimation process for the loans held for sale portfolio is segregated by loan type. The estimated fair value for mortgage loans held for sale was based on what secondary markets are currently

offering for portfolios with similar characteristics. The estimated fair value for commercial loans held for sale was based on a discounted cash flow analysis.

Loans, net—The fair value estimation process for the loan portfolio uses an exit price concept and reflects discounts the Corporation believes are consistent with liquidity discounts in the market place. Fair values are estimated for portfolios of loans with similar financial characteristics. Loans are segregated by type such as commercial and industrial, real estate construction, commercial real estate (owner occupied and investor), residential mortgage, home equity, and other consumer. The fair value of loans is estimated by discounting the future cash flows using the current rates at which similar loans would be made to borrowers with similar credit ratings and for similar maturities. The fair value analysis also included other assumptions to estimate fair value, intended to approximate those a market participant would use in an orderly transaction, with adjustments for discount rates, interest rates, liquidity, and credit spreads, as appropriate.

Bank owned life insurance—The fair value of bank owned life insurance approximates the carrying amount, because upon liquidation of these investments, the Corporation would receive the cash surrender value which equals the carrying amount.

Deposits—The fair value of deposits with no stated maturity such as noninterest-bearing demand, savings, interest-bearing demand, and money market accounts, is equal to the amount payable on demand as of the balance sheet date. The fair value of Brokered CDs and other time deposits is based on the discounted value of contractual cash flows. The discount rate is estimated using the rates currently offered for deposits of similar remaining maturities. However, if the estimated fair value of Brokered CDs and other time deposits is less than the carrying value, the carrying value is reported as the fair value.

Short-term funding—The carrying amount is a reasonable estimate of fair value for existing short-term funding.

Long-term funding—Rates currently available to the Corporation for debt with similar terms and remaining maturities are used to estimate the fair value of existing long-term funding.

Standby letters of credit—The fair value of standby letters of credit represents deferred fees arising from the related off-balance sheet financial instruments. These deferred fees approximate the fair value of these instruments and are based on several factors, including the remaining terms of the agreement and the credit standing of the customer.

Derivatives (trading and other)—A detailed description of the Corporation's derivative instruments can be found under the "Assets and Liabilities Measured at Fair Value on a Recurring Basis" section of this footnote.

Limitations—Fair value estimates are made at a specific point in time, based on relevant market information and information about the financial instrument. These estimates do not reflect any premium or discount that could result from offering for sale at one time the Corporation’s entire holdings of a particular financial instrument. Because no market exists for a significant portion of the Corporation’s financial instruments, fair value estimates are based on judgments regarding future expected loss experience, current economic conditions, risk characteristics of various financial instruments, and other factors. These estimates are subjective in nature and involve uncertainties and matters of significant judgment and, therefore, cannot be determined with precision. Changes in assumptions could significantly affect the estimates.

Note 19 Regulatory Matters

Restrictions on Cash and Due From Banks

The Corporation's bank subsidiary is required to maintain certain vault cash and reserve balances with the Federal Reserve Bank to meet specific reserve requirements. These requirements approximated $115 million at December 31, 2016.

Regulatory Capital Requirements

The Corporation and its subsidiary bank are subject to various regulatory capital requirements administered by the federal banking agencies. Failure to meet minimum capital requirements can initiate certain mandatory and possible additional discretionary actions by regulators that, if undertaken, could have a direct material effect on the Corporation's financial statements. Under capital adequacy guidelines and the regulatory framework for prompt corrective action, the Corporation must meet specific capital guidelines that involve quantitative measures of the Corporation's assets, liabilities, and certain off-balance sheet items as calculated under regulatory accounting practices. The Corporation's capital amounts and classification are also subject to qualitative judgments by the regulators about components, risk weightings, and other factors.

Quantitative measures established by regulation to ensure capital adequacy require the Corporation to maintain minimum amounts and ratios (set forth in the table below) of total and Common equity Tier 1 capital (as defined in the regulations) to risk-weighted assets (as defined), and of Tier 1 capital (as defined) to average assets (as defined). Management believes, as of December 31, 2016 and 2015, that the Corporation meets all capital adequacy requirements to which it is subject.

For additional information on the capital requirements applicable for the Corporation and the Bank, please see Part I, Item 1.

As of December 31, 2016 and 2015, the most recent notifications from the Office of the Comptroller of the Currency and the Federal Deposit Insurance Corporation categorized the subsidiary bank as well capitalized under the regulatory framework for prompt corrective action. To be categorized as well capitalized, the subsidiary bank must maintain minimum ratios as set forth in the table. There are no conditions or events since that notification that management believes have changed the institution's category. The actual capital amounts and ratios of the Corporation and its significant subsidiary are presented below. No deductions from capital were made for interest rate risk in 2016 or 2015.

	Actual		For Capital Adequacy Purposes			To Be Well Capitalized Under Prompt Corrective Action Provisions:[2]		
	Amount	Ratio[1]	Amount		Ratio[1]	Amount		Ratio[1]
	($ in Thousands)							
As of December 31 , 2016								
Associated Banc-Corp								
Total capital	$ 2,706,760	12.68%	$ 1,707,276	≥	8.00%			
Tier 1 capital	2,191,798	10.27	1,280,457	≥	6.00%			
Common equity Tier 1 capital	2,032,587	9.52	960,343	≥	4.50%			
Leverage	2,191,798	7.83	1,119,685	≥	4.00%			
Associated Bank, N.A.								
Total capital	$ 2,565,062	12.07%	$ 1,700,737	≥	8.00%	$ 2,125,921	≥	10.00%
Tier 1 capital	2,298,812	10.81	1,275,553	≥	6.00%	1,700,737	≥	8.00%
Common equity Tier 1 capital	2,098,812	9.87	956,664	≥	4.50%	1,381,849	≥	6.50%
Leverage	2,298,812	8.24	1,115,731	≥	4.00%	1,394,663	≥	5.00%
As of December 31 , 2015								
Associated Banc-Corp								
Total capital	$ 2,515,861	12.62%	$ 1,594,397	≥	8.00%			
Tier 1 capital	2,016,861	10.12	1,195,798	≥	6.00%			
Common equity Tier 1 capital	1,897,944	9.52	896,848	≥	4.50%			
Leverage	2,016,861	7.60	1,061,325	≥	4.00%			
Associated Bank, N.A.								
Total capital	$ 2,532,563	12.76%	$ 1,588,070	≥	8.00%	$ 1,985,088	≥	10.00%
Tier 1 capital	2,283,785	11.50	1,191,053	≥	6.00%	1,588,070	≥	8.00%
Common equity Tier 1 capital	2,084,589	10.50	893,289	≥	4.50%	1,290,307	≥	6.50%
Leverage	2,283,785	8.64	1,057,228	≥	4.00%	1,321,535	≥	5.00%

(1) When fully phased-in on January 1, 2019, the Basel III capital rules include a capital conservation buffer of 2.5% that is added on top of each of the minimum risk-based capital ratios noted above. Implementation began on January 1, 2016 at the 0.625% level and will increase each subsequent January 1, until it reaches 2.5% on January 1, 2019.

(2) Prompt corrective action provisions are not applicable at the bank holding company level.

Note 20 Earnings Per Common Share

See Note 1 for the Corporation's accounting policy on earnings per common share. Presented below are the calculations for basic and diluted earnings per common share.

	For the Years Ended December 31,		
	2016	2015	2014
	(In thousands, except per share data)		
Net income	$ 200,274	$ 188,301	$ 190,509
Preferred stock dividends	(8,903)	(7,155)	(5,002)
Net income available to common equity	$ 191,371	$ 181,146	$ 185,507
Common shareholder dividends	(67,100)	(61,774)	(58,123)
Unvested share-based payment awards	(755)	(626)	(587)
Undistributed earnings	$ 123,516	$ 118,746	$ 126,797
Undistributed earnings allocated to common shareholders	122,205	117,498	125,646
Undistributed earnings allocated to unvested share-based payment awards	1,311	1,248	1,151
Undistributed earnings	$ 123,516	$ 118,746	$ 126,797
Basic			
Distributed earnings to common shareholders	$ 67,100	$ 61,774	$ 58,123
Undistributed earnings allocated to common shareholders	122,205	117,498	125,646
Total common shareholders earnings, basic	$ 189,305	$ 179,272	$ 183,769
Diluted			
Distributed earnings to common shareholders	$ 67,100	$ 61,774	$ 58,123
Undistributed earnings allocated to common shareholders	122,205	117,498	125,646
Total common shareholders earnings, diluted	$ 189,305	$ 179,272	$ 183,769
Weighted average common shares outstanding	148,769	149,350	157,286
Effect of dilutive common stock awards	1,192	1,253	968
Diluted weighted average common shares outstanding	149,961	150,603	158,254
Basic earnings per common share	$ 1.27	$ 1.20	$ 1.17
Diluted earnings per common share	$ 1.26	$ 1.19	$ 1.16

Options to purchase approximately 1 million, 1 million, and 2 million shares were outstanding at December 31, 2016, 2015, and 2014, respectively, but excluded from the calculation of diluted earnings per common share as the effect would have been anti-dilutive. Warrants to purchase approximately 4 million shares were outstanding at December 31, 2016, 2015, and 2014, respectively, but excluded from the calculation of diluted earnings per common shares as the effect would have been anti-dilutive.

Note 21 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 Note 1, with certain exceptions. The more significant of these exceptions are described herein.

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 recorded in the Risk Management and Shared Services segment.

During 2015, the Corporation adopted an enhanced FTP methodology utilizing, new, more granular deposit information which incorporated the additional dimension of vintage (based on time from when the deposit account was opened) for determining the funds credit on non-maturity deposits. The new deposit information demonstrated that deposit accounts with the Corporation for a longer period of time had a lower attrition rate, warranting a higher crediting rate (based on a longer-term segment of the yield curve) to reflect the long-term value such deposits provide to the Corporation. This new methodology resulted in an additional $30 million in allocated net interest income to the Corporate and Commercial Specialty and Community, Consumer, and Business segments for 2015. Prior periods have not been restated for this enhanced FTP methodology due to the impracticability of estimating the impact of the change for prior periods.

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 Note 1 to assess the overall appropriateness of the allowance for loan losses and the allowance for unfunded commitments. 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 core deposit and other intangible assets associated with acquisitions) are generally not allocated to segments. Income taxes are allocated to segments based on the Corporation's tax rate, with certain segments adjusted for any tax-exempt income or non-deductible expenses, the net tax residual is recorded in Risk Management and Shared Services. 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).

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. During 2016, certain presentation changes were made and, accordingly, 2015 and 2014 results have been restated and presented on a comparable basis, except as noted above for the enhanced FTP methodology.

A description of each business segment is presented below.

Corporate and Commercial Specialty — The Corporate and Commercial Specialty segment serves a wide range of customers including larger businesses, developers, not-for-profits, municipalities, and financial institutions. In serving this segment we compete based on an in-depth understanding of our customers' financial needs, the ability to match market competitive solutions to those needs, and the highest standards of relationship and service excellence in the delivery of these services. Delivery of services is provided through our corporate and commercial units, our commercial real estate unit, as well as our specialized industries and commercial financial services units. Within this segment we provide the following products and services: (1) lending solutions, such as commercial loans and lines of credit, commercial real estate financing, construction loans, letters of credit, leasing, asset based lending, and, for our larger clients, loan syndications; (2) deposit and cash management solutions such as commercial checking and interest-bearing deposit products, cash vault and night depository services, liquidity solutions, payables and receivables solutions, and information services, and (3) specialized financial services such as interest rate risk management, foreign exchange solutions, and commodity hedging.

***Community, Consumer, and Business* —** The Community, Consumer, and Business segment serves individuals, as well as small and mid-sized businesses. In serving this segment we compete based on providing a broad range of solutions to meet the needs of our customers in their entire financial lifecycle, convenient access to our services through multiple channels such as branches, phone based services, online and mobile banking, and a relationship based business model which assists our customers in navigating any changes and challenges in their financial circumstances. Delivery of services is provided through our various consumer banking, community banking, and private client units. Within this segment we provide the following products and services: (1) lending solutions such as residential mortgages, home equity loans and lines of credit, personal and installment loans, real estate financing, business loans, and business lines of credit; (2) deposit and transactional solutions such as checking, credit, debit and pre-paid cards, online banking and bill pay, and money transfer services; (3) investable funds solutions such as savings, money market deposit accounts, IRA accounts, certificates of deposit, fixed and variable annuities, full-service, discount and on-line investment brokerage; investment advisory services; trust and investment management accounts; (4) insurance and benefits related products and services; and (5) fiduciary services such as administration of pension, profit-sharing and other employee benefit plans, fiduciary and corporate agency services, and institutional asset management.

***Risk Management and Shared Services* —** The Risk Management and Shared Services segment includes Corporate Risk Management, Credit Administration, Finance, Treasury, Operations and Technology, which are key shared functions. The segment also includes Parent Company activity, intersegment eliminations and 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). The earning assets within this segment include the Corporation's investment portfolio, and capital includes both allocated and any remaining unallocated capital.

Information about the Corporation's segments is presented below.

Segment Income Statement Data

For the Years Ended December 31,	Corporate and Commercial Specialty	Community, Consumer, and Business	Risk Management and Shared Services	Consolidated Total
	($ in Thousands)			
2016				
Net interest income	$ 328,603	$ 350,551	$ 28,119	$ 707,273
Noninterest income	47,776	277,942	27,165	352,883
Total revenue	376,379	628,493	55,284	1,060,156
Credit provision*	50,397	24,185	(4,582)	70,000
Noninterest expense	148,493	502,285	51,782	702,560
Income before income taxes	177,489	102,023	8,084	287,596
Income tax expense (benefit)	59,261	35,708	(7,647)	87,322
Net income	$ 118,228	$ 66,315	$ 15,731	$ 200,274
Return on average allocated capital (ROCET1)**	11.0%	10.5%	2.8%	9.9%
2015				
Net interest income	$ 310,072	$ 349,134	$ 17,072	$ 676,278
Noninterest income	46,742	265,503	17,112	329,357
Total revenue	356,814	614,637	34,184	1,005,635
Credit provision*	41,913	25,614	(30,027)	37,500
Noninterest expense	141,912	492,284	64,151	698,347
Income before income taxes	172,989	96,739	60	269,788
Income tax expense (benefit)	59,200	33,859	(11,572)	81,487
Net income	$ 113,789	$ 62,880	$ 11,632	$ 188,301
Return on average allocated capital (ROCET1)**	11.6%	9.8%	2.1%	9.9%
2014				
Net interest income	$ 296,717	$ 310,444	$ 73,806	$ 680,967
Noninterest income	49,213	221,430	20,218	290,861
Total revenue	345,930	531,874	94,024	971,828
Credit provision*	46,857	23,934	(54,791)	16,000
Noninterest expense	148,476	463,235	68,072	679,783
Income before income taxes	150,597	44,705	80,743	276,045
Income tax expense	50,039	15,647	19,850	85,536
Net income	$ 100,558	$ 29,058	$ 60,893	$ 190,509
Return on average allocated capital (ROCET1)**	11.1%	5.1%	13.9%	9.9%

Segment Balance Sheet Data

Average Balance for:		Corporate and Commercial Specialty		Community, Consumer, and Business		Risk Management and Shared Services		Consolidated Total
				($ in Thousands)				
2016								
Average earning assets	$	10,178,813	$	9,309,028	$	6,538,820	$	26,026,661
Average loans		10,169,300		9,307,723		173,644		19,650,667
Average deposits		5,904,238		11,451,759		3,649,775		21,005,772
Average allocated capital (CET1)**	$	1,070,598	$	629,540	$	240,253	$	1,940,391
2015								
Average earning assets	$	9,383,971	$	8,810,015	$	6,377,101	$	24,571,087
Average loans		9,374,191		8,809,673		68,400		18,252,264
Average deposits		5,856,530		10,898,602		3,147,955		19,903,087
Average allocated capital (CET1)**	$	977,406	$	640,181	$	216,010	$	1,833,597
2014								
Average earning assets	$	8,927,401	$	7,840,352	$	5,992,375	$	22,760,128
Average loans		8,915,498		7,840,352		83,144		16,838,994
Average deposits		5,148,195		10,061,495		2,437,394		17,647,084
Average allocated capital (CET1)**	$	903,500	$	564,303	$	402,806	$	1,870,609

* The consolidated credit provision is equal to the actual reported provision for credit losses.

** The Federal Reserve establishes capital adequacy requirements for the Corporation. Average allocated capital represents average common equity Tier 1, as defined by the Federal Reserve. For segment reporting purposes, the ROCET1, a non-GAAP financial measure, reflects return on average allocated common equity Tier 1 (“CET1”). 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.

Note 22 Accumulated Other Comprehensive Income (Loss)

The following table summarizes the components of accumulated other comprehensive income (loss) at December 31, 2016, 2015, and 2014, changes during the years then ended, and reclassifications out of accumulated other comprehensive income (loss) during the years ended December 31, 2016, 2015, and 2014, respectively.

	Investments Securities Available For Sale	Defined Benefit Pension and Postretirement Obligations	Accumulated Other Comprehensive Income (Loss)
		($ in Thousands)	
Balance December 31, 2013	$ (11,396)	$ (12,848)	$ (24,244)
Other comprehensive income (loss) before reclassifications	49,038	(18,428)	30,610
Amounts reclassified from accumulated other comprehensive income (loss):			
Investment securities gain, net	(494)	—	(494)
Personnel expense	—	1,407	1,407
Income tax (expense) benefit	(18,636)	6,507	(12,129)
Net other comprehensive income (loss) during period	29,908	(10,514)	19,394
Balance December 31, 2014	$ 18,512	$ (23,362)	$ (4,850)
Other comprehensive loss before reclassifications	(20,439)	(17,892)	(38,331)
Amounts reclassified from accumulated other comprehensive income (loss):			
Investment securities gain, net	(8,133)	—	(8,133)
Personnel expense	—	2,306	2,306
Interest income	(555)	—	(555)
Income tax benefit	11,074	5,873	16,947
Net other comprehensive loss during period	(18,053)	(9,713)	(27,766)
Balance December 31, 2015	$ 459	$ (33,075)	$ (32,616)
Other comprehensive loss before reclassifications	(17,900)	(6,141)	(24,041)
Amounts reclassified from accumulated other comprehensive loss:			
Investment securities gain, net	(9,316)	—	(9,316)
Personnel expense	—	3,801	3,801
Interest income	(5,887)	—	(5,887)
Income tax benefit	12,565	815	13,380
Net other comprehensive loss during period	(20,538)	(1,525)	(22,063)
Balance December 31, 2016	$ (20,079)	$ (34,600)	$ (54,679)

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Board of Directors and Stockholders

Associated Banc-Corp:

We have audited the accompanying consolidated balance sheets of Associated Banc-Corp and subsidiaries (the Company) as of December 31, 2016 and 2015, and the related consolidated statements of income, comprehensive income, changes in stockholders' equity, and cash flows for each of the years in the three-year period ended December 31, 2016. These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Associated Banc-Corp and subsidiaries as of December 31, 2016 and 2015, and the results of their operations and their cash flows for each of the years in the three-year period ended December 31, 2016, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), Associated Banc-Corp's internal control over financial reporting as of December 31, 2016, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO), and our report dated February 6, 2017 expressed an unqualified opinion on the effectiveness of Associated Banc-Corp's internal control over financial reporting.

KPMG LLP

Chicago, Illinois
February 6, 2017

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

The Corporation maintains disclosure controls and procedures as required under Rule 13a-15(e) and Rule 15d-15 (e) 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 our 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 December 31, 2016, 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 December 31, 2016. No changes were made to the Corporation's internal control over financial reporting (as defined Rule 13a-15 (f) and Rule 15d-15(f) promulgated under the Exchange Act) during the last fiscal quarter that have materially affected, or are reasonably likely to materially affect, the Corporation's internal control over financial reporting.

Management's Annual Report on Internal Control Over Financial Reporting

Management of Associated Banc-Corp is responsible for establishing and maintaining adequate internal control over financial reporting. The Corporation's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of the Corporation's financial statements for external purposes in accordance with generally accepted accounting principles. Internal control over financial reporting is defined in Rules 13a-15(f) and 15d-15(f) promulgated under the Securities Exchange Act of 1934, as amended (the "Exchange Act").

As of December 31, 2016, management assessed the effectiveness of the Corporation's internal control over financial reporting based on criteria for effective internal control over financial reporting established in "Internal Control — Integrated Framework (2013)," issued by the Committee of Sponsoring Organization of the Treadway Commission (COSO). Based on this assessment, management has determined that the Corporation's internal control over financial reporting as of December 31, 2016, was effective.

KPMG LLP, the independent registered public accounting firm that audited the consolidated financial statements of the Corporation included in this Annual Report on Form 10-K, has issued an attestation report on the effectiveness of the Corporation's internal control over financial reporting as of December 31, 2016. The report, which expresses an unqualified opinion on the effectiveness of the Corporation's internal control over financial reporting as of December 31, 2016, is included below under the heading "Report of Independent Registered Public Accounting Firm."

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Board of Directors and Stockholders
Associated Banc-Corp:

We have audited Associated Banc-Corp's (the Company) internal control over financial reporting as of December 31, 2016, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Annual Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit.

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

A company's internal control over financial reporting is a process designed 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. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

In our opinion, Associated Banc-Corp maintained, in all material respects, effective internal control over financial reporting as of December 31, 2016, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated balance sheets of Associated Banc-Corp and subsidiaries as of December 31, 2016 and 2015, and the related consolidated statements of income, comprehensive income, changes in stockholders' equity, and cash flows for each of the years in the three-year period ended December 31, 2016, and our report dated February 6, 2017 expressed an unqualified opinion on those consolidated financial statements.

KPMG LLP

Chicago, Illinois
February 6, 2017

ITEM 9B. OTHER INFORMATION

None.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information in the Corporation's definitive Proxy Statement, prepared for the 2017 Annual Meeting of Shareholders, which contains information concerning this item under the captions "Election of Directors" and "Information About the Board of Directors"; and information concerning Section 16(a) compliance under the caption "Section 16(a) Beneficial Ownership Reporting Compliance" is incorporated herein by reference. Information relating to the Corporation's executive officers is set forth in Part I of this report.

ITEM 11. EXECUTIVE COMPENSATION

The information in the Corporation's definitive Proxy Statement, prepared for the 2017 Annual Meeting of Shareholders, which contains information concerning this item, under the captions "Executive Compensation — Compensation Discussion and Analysis," "Director Compensation," "Compensation and Benefits Committee Interlocks and Insider Participation," and "Compensation and Benefits Committee Report" is incorporated herein by reference.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The information in the Corporation's definitive Proxy Statement, prepared for the 2017 Annual Meeting of Shareholders, which contains information concerning this item, under the captions "Stock Ownership" and "Equity Compensation Plan Information," is incorporated herein by reference.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The information in the Corporation's definitive Proxy Statement, prepared for the 2017 Annual Meeting of Shareholders, which contains information concerning this item under the captions "Related Party Transactions," and "Information about the Board of Directors," is incorporated herein by reference.

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

The information in the Corporation's definitive Proxy Statement, prepared for the 2017 Annual Meeting of Shareholders, which contains information concerning this item under the caption "Fees Paid to Independent Registered Public Accounting Firm," is incorporated herein by reference.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(a) 1 and 2 Financial Statements and Financial Statement Schedules

The following financial statements and financial statement schedules are included under a separate caption "Financial Statements and Supplementary Data" in Part II, Item 8 hereof and are incorporated herein by reference.

Consolidated Balance Sheets — December 31, 2016 and 2015

Consolidated Statements of Income — For the Years Ended December 31, 2016, 2015, and 2014

Consolidated Statements of Comprehensive Income — For the Years Ended December 31, 2016, 2015, and 2014

Consolidated Statements of Changes in Stockholders' Equity — For the Years Ended December 31, 2016, 2015, and 2014

Consolidated Statements of Cash Flows — For the Years Ended December 31, 2016, 2015, and 2014

Notes to Consolidated Financial Statements

Report of Independent Registered Public Accounting Firm

(a) 3 Exhibits Required by Item 601 of Regulation S-K

Exhibit Number	Description	
(3)(a)	Amended and Restated Articles of Incorporation	Exhibit (3) to Report on Form 10-Q filed on May 8, 2006
(3)(b)	Articles of Amendment to the Amended and Restated Articles of Incorporation of Associated Banc-Corp with respect to its 8.00% Perpetual Preferred Stock, Series B, dated September 12, 2011	Exhibit (3.1) to Report on Form 8-K filed on September 15, 2011
(3)(c)	Articles of Amendment to the Amended and Restated Articles of Incorporation of Associated Banc-Corp with respect to its 6.125% Non-Cumulative Perpetual Preferred Stock, Series C, dated June 4, 2015	Exhibit (3.1) to Report on Form 8-K filed on June 8, 2015
(3)(d)	Articles of Amendment to the Amended and Restated Articles of Incorporation of Associated Banc-Corp regarding the rights and preferences of preferred stock, effective April 25, 2012	Exhibit (3.1 and 4.1) to Report on Form 8-K filed on April 25, 2012
(3)(e)	Articles of Amendment to the Amended and Restated Articles of Incorporation of Associated Banc-Corp with respect to its 6.125% Non-Cumulative Perpetual Preferred Stock, Series C, dated June 4, 2015	Exhibit (3.1, 4.1) to Report on Form 8-K filed on June 8, 2015
(3)(f)	Articles of Correction filed with the Wisconsin Department of Financial Institutions on June 14, 2016	Exhibit (3) to Report on Form 10-Q filed on July 28, 2016
(3)(g)	Certificate Related to Series A Preferred Stock dated August 15, 2016	Exhibit (3.1) to Report on Form 8-K filed on August 16, 2016
(3)(h)	Articles of Amendment to the Amended and Restated Articles of Incorporation of Associated Banc-Corp with respect to its 5.375% Non-Cumulative Perpetual Preferred Stock, Series D, dated September 12, 2016	Exhibit (3.1, 4.1) to Report on Form 8-K filed on September 15, 2016
(3)(i)	Amended and Restated Bylaws	Exhibit (3) to Report on Form 10-Q filed on November 1, 2013

(3)(j)	Amended and Restated Bylaws of Associated Banc-Corp	Exhibit (3.1) to Report on Form 8-K filed on October 26, 2016
(4)(a)	Instruments Defining the Rights of Security Holders, Including Indentures	
	The Parent Company, by signing this report, agrees to furnish the SEC, upon its request, a copy of any instrument that defines the rights of holders of long-term debt of the Corporation and its consolidated and unconsolidated subsidiaries for which consolidated or unconsolidated financial statements are required to be filed and that authorizes a total amount of securities not in excess of 10% of the total assets of the Corporation on a consolidated basis	
(4)(b)	Indenture, dated as of March 14, 2011, between Associated Banc-Corp and The Bank of New York Mellon Trust Company, N.A.	Exhibit (4.1) to Report on Form 8-K filed on March 28, 2011
(4)(c)	Global Note dated as of March 28, 2011 representing $300,000,000 5.125% Senior Notes due 2016	Exhibit (4.2) to Report on Form 8-K filed on March 28, 2011
(4)(d)	Global Note dated as of September 13, 2011 representing $130,000,000 5.125% Senior Notes due 2016	Exhibit (4.4) to Report on Form 8-K filed on September 15, 2011
(4)(e)	Deposit Agreement, dated September 14, 2011, among Associated Banc-Corp, Wells Fargo Bank, N.A. and the holders from time to time of the Depositary Receipts described therein, and Form of Depositary Receipt	Exhibit (4.2) to Report on Form 8-K filed on September 15, 2011
(4)(f)	Warrant Agreement for 3,983,308 Warrants, dated as of November 30, 2011, between Associated Banc-Corp and Wells Fargo Bank, N.A.	Exhibit (4.1) to Report on Form 8-A filed on December 1, 2011
(4)(g)	Specimen Warrant for 3,983,308 Warrants	Exhibit (4.2) to Report on Form 8-A filed on December 1, 2011
(4)(h)	Subordinated Indenture, dated as of November 13, 2014, between Associated Banc-Corp and The Bank of New York Mellon Trust Company, N.A., as trustee	Exhibit (4.1) to Report on Form 8-K filed on November 18, 2014
(4)(i)	Global Note dated as of November 13, 2014 representing $250,000,000 2.750% Senior Notes due 2019	Exhibit (4.2) to Report on Form 8-K filed on November 18, 2014
(4)(j)	Global Note dated as of November 13, 2014 representing $250,000,000 4.250% Subordinated Note due 2025	Exhibit (4.3) to Report on Form 8-K filed on November 18, 2014
(4)(k)	Deposit Agreement, dated June 8, 2015, among Associated Banc-Corp, Wells Fargo Bank, N.A. and the holders from time to time of the Depositary Receipts described therein, and form of Depositary Receipt	Exhibit (4.2) to Report on Form 8-K filed on June 8, 2015
(4)(l)	Deposit Agreement, dated September 15, 2016, among Associated Banc-Corp, Wells Fargo Bank, N.A., and the holders from time to time of the Depositary Receipts described therein, and form of Depositary Receipt	Exhibit (4.2) to Report on Form 8-K filed on September 15, 2016
*(10)(a)	Associated Banc-Corp 1987 Long-Term Incentive Stock Plan, Amended and Restated Effective January 1, 2008	Exhibit (10)(a) to Report on Form 10-K filed on February 26, 2009
*(10)(b)	Associated Banc-Corp 1999 Long-Term Incentive Stock Plan, Amended and Restated Effective January 1, 2008	Exhibit (10)(b) to Report on Form 10-K filed on February 26, 2009
*(10)(c)	Associated Banc-Corp 2003 Long-Term Incentive Stock Plan, Amended and Restated Effective January 1, 2008	Exhibit (10)(c) to Report on Form 10-K filed on February 26, 2009

Exhibit Number	Description	
*(10)(d)	Associated Banc-Corp Deferred Compensation Plan	Exhibit (10)(h) to Report on Form 10-K filed on February 26, 2009
*(10)(e)	Associated Banc-Corp Directors' Deferred Compensation Plan, Restated Effective January 1, 2008	Exhibit (10)(i) to Report on Form 10-K filed on February 26, 2009
*(10)(f)	Associated Banc-Corp Deferred Compensation Plan, Restated Effective November 16, 2015	Exhibit (10)(f) to Report on Form 10-K filed on February 5 2016
*(10)(g)	Amendment to Associated Banc-Corp 2003 Long-Term Incentive Stock Plan effective November 15, 2009	Exhibit (99.2) to Report on Form 8-K filed on November 16, 2009
*(10)(h)	Associated Banc-Corp 2010 Incentive Compensation Plan	Exhibit (99.1) to Report on Form 8-K filed on April 29, 2010
*(10)(i)	Associated Banc-Corp 2013 Incentive Compensation Plan	Appendix A to Definitive Proxy Statement filed on March 14, 2013
*(10)(j)	Form of Restricted Stock Agreement	Exhibit (10.1) to Report on Form 10-Q filed on August 4, 2014
*(10)(k)	Form of Non-Qualified Stock Option Agreement	Exhibit (99.3) to Report on Form 8-K filed on January 27, 2012
*(10)(l)	Associated Banc-Corp Change of Control Plan, Restated Effective September 28, 2011	Exhibit (10.1) to Report on Form 8-K filed on September 30, 2011
*(10)(m)	Associated Banc-Corp Supplemental Executive Retirement Plan for Philip B. Flynn	Exhibit (99.2) to Report on Form 8-K filed on December 23, 2011
*(10)(n)	Form of Performance-Based Restricted Stock Unit Agreement	Exhibit (10.2) to Report on Form 10-Q filed on August 4, 2014
*(10)(o)	Supplemental Executive Retirement Plan, Restated Effective January 22, 2013	Exhibit (99.1) to Report on Form 8-K filed on January 22, 2013
*(10)(p)	Supplemental Executive Retirement Plan, Restated Effective November 16, 2015	Exhibit (10)(p) to Report on Form 10-K filed on February 5, 2016
(11)	Statement Re Computation of Per Share Earnings	See Note 20 in Part II Item 8
(21)	Subsidiaries of Associated Banc-Corp	Filed herewith
(23)	Consent of Independent Registered Public Accounting Firm	Filed herewith
(24)	Powers of Attorney	Filed herewith
(31.1)	Certification Under Section 302 of Sarbanes-Oxley by Philip B. Flynn, Chief Executive Officer	Filed herewith
(31.2)	Certification Under Section 302 of Sarbanes-Oxley by Christopher J. Del Moral-Niles, Chief Financial Officer	Filed herewith
(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.	Filed herewith
(101)	Interactive data files pursuant to Rule 405 of Regulation S-T: (i) Consolidated Balance Sheets, (ii) Consolidated Statements of Income, (iii) Consolidated Statements of Comprehensive Income, (iv) Consolidated Statements of Changes in Stockholders' Equity, (v) Consolidated Statements of Cash Flows, and (vi) Notes to Consolidated Financial Statements.	Filed herewith

* Management contracts and arrangements.

Schedules and exhibits other than those listed are omitted for the reasons that they are not required, are not applicable or that equivalent information has been included in the financial statements, and notes thereto, or elsewhere within.

ITEM 16. FORM 10-K SUMMARY

Not applicable.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

ASSOCIATED BANC-CORP

Date: February 6, 2017

By: /s/ Philip B. Flynn
Philip B. Flynn
President and Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

Signature	Title	Date
/s/ Philip B. Flynn Philip B. Flynn	President and Chief Executive Officer (Principal Executive Officer)	February 6, 2017
/s/ Christopher J. Del Moral-Niles Christopher J. Del Moral-Niles	Chief Financial Officer and Principal Accounting Officer	February 6, 2017

Directors: John F. Bergstrom, Philip B. Flynn, R. Jay Gerken, William R. Hutchinson, Robert A. Jeffe, Eileen A. Kamerick, Gale E. Klappa, Richard T. Lommen, Cory L. Nettles, Karen T. van Lith, and John (Jay) B. Williams

By: /s/ Randall J. Erickson
Randall J. Erickson
As Attorney-In-Fact*

* Pursuant to authority granted by powers of attorney, copies of which are filed herewith.

Section 2: EX-21 (EXHIBIT 21)

Exhibit 21

Subsidiaries of the Parent Company

The following bank subsidiaries are national banks and are organized under the laws of the United States:

Associated Bank, National Association
Associated Trust Company, National Association

The following nonbank subsidiary is organized under the laws of the State of Nevada:

Associated Investment Corp.

The following nonbank subsidiaries are organized under the laws of the State of Michigan:

GL-Mercantile Milwaukee, LLC

The following nonbank subsidiaries are organized under the laws of the State of Minnesota:

Ahmann & Martin Financial Services, LLC

The following nonbank subsidiaries are organized under the laws of the State of Wisconsin:

Associated Community Development, LLC
Associated Financial Group, LLC DBA Associated Benefits and Risk Consulting
Associated Investment Services, Inc.
Associated MN Commercial RE, LLC
Associated Wisconsin Real Estate Corp.
Kellogg Asset Management, LLC
Milwaukee Center Management, LLC

(Back To Top)

Section 3: EX-23 (EXHIBIT 23)

Exhibit 23

Consent of Independent Registered Public Accounting Firm

The Board of Directors
Associated Banc-Corp:

Re: Registration Statements on Form S-8

#2-77435	#333-121012
#2-99096	#333-121011
#33-16952	#333-121010
#33-24822	#333-120711

#33-35560	#333-120714
#33-54658	#333-120713
#33-63545	#333-120710
#33-67436	#333-120709
#33-86790	#333-166392
#333-46467	#333-188233
#333-74307	#333-208104

Re: Registration Statements on Form S-3

#2-98922	#33-67434
#33-28081	#333-202836
#33-63557	#333-208103

Re: Registration Statements on Form S-4

#333-195049

We consent to the incorporation by reference in the registration statements listed above on Forms S-8, S-3 and S-4 of Associated Banc-Corp of our reports dated February 6, 2017, with respect to the consolidated balance sheets of Associated Banc-Corp as of December 31, 2016 and 2015, and the related consolidated statements of income, comprehensive income, changes in stockholders' equity and cash flows, for each of the years in the three-year period ended December 31, 2016, and the effectiveness of internal control over financial reporting as of December 31, 2016, which reports appear in the December 31, 2016 annual report on Form 10-K of Associated Banc-Corp.

/s/ KPMG LLP

Chicago, Illinois
February 6, 2017

(Back To Top)

Section 4: EX-24 (EXHIBIT 24)

Exhibit 24

POWER OF ATTORNEY FOR ANNUAL REPORT ON FORM 10-K

Each of the undersigned directors of Associated Banc-Corp (the "Corporation") hereby designates and appoints Randall J. Erickson and Anthony M. Reading-Brown, and each of them, the undersigned's true and lawful attorney-in-fact and agent, with full power of substitution and resubstitution, for the undersigned and in the undersigned's name, place and stead to sign for the undersigned and in the undersigned's name in the capacity as a director of the Corporation the Corporation's Annual Report on Form 10-K for the year ended December 31, 2016, and to file the same, with all exhibits thereto, other documents in connection therewith, and any amendments to any of the foregoing, with the Securities and Exchange Commission and any other regulatory authority, granting unto said attorney-in-fact and agent full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully and to all intents and purposes as the undersigned might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent, or the undersigned's substitute, may lawfully do or cause to be done by virtue hereof.

IN WITNESS WHEREOF, the undersigned have each executed this Power of Attorney for Annual Report on Form 10-K, on one or more counterparts, as of the 6th day of February, 2017.

/s/ John F. Bergstrom John F. Bergstrom	/s/ Gale E. Klappa Gale E. Klappa
/s/ Philip B. Flynn Philip B. Flynn	/s/ Richard T. Lommen Richard T. Lommen
/s/ R. Jay Gerken R. Jay Gerken	/s/ Cory L. Nettles Cory L. Nettles
/s/ William R. Hutchinson William R. Hutchinson	/s/ Karen T. van Lith Karen T. van Lith
/s/ Robert A. Jeffe Robert A. Jeffe	/s/ John (Jay) B. Williams John (Jay) B. Williams
/s/ Eileen A. Kamerick Eileen A. Kamerick	

(Back To Top)

Section 5: EX-31.1 (EXHIBIT 31.1)

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 annual report on Form 10-K 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: February 6, 2017

/s/ Philip B. Flynn

Philip B. Flynn
President and Chief Executive Officer

(Back To Top)

Section 6: EX-31.2 (EXHIBIT 31.2)

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 annual report on Form 10-K 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: February 6, 2017

/s/ Christopher J. Del Moral-Niles

Christopher J. Del Moral-Niles
Chief Financial Officer

(Back To Top)

Section 7: EX-32 (EXHIBIT 32)

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 Annual Report of the Company on Form 10-K for the year ended December 31, 2016 (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
February 6, 2017

/s/ Christopher J. Del Moral-Niles

Christopher J. Del Moral-Niles
Chief Financial Officer
February 6, 2017

(Back To Top)