PNC FINANCIAL SERVICES GROUP, INC.
Form 10-K
March 01, 2019
UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, DC 20549
FORM 10-K
Annual Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934
For the fiscal year ended December 31, 2018
Commission file number 001-09718
THE PNC FINANCIAL SERVICES GROUP, INC.
(Exact name of registrant as specified in its charter)

Pennsylvania	25-1435979
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

The Tower at PNC Plaza
300 Fifth Avenue
Pittsburgh, Pennsylvania 15222-2401
(Address of principal executive offices, including zip code)
Registrant's telephone number, including area code - (888) 762-2265
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 $5.00	New York Stock Exchange
Depositary Shares Each Representing a 1/4,000 Interest in a Share of Fixed-to-Floating Rate Non-Cumulative Perpetual Preferred Stock, Series P	New York Stock Exchange
Depositary Shares Each Representing a 1/4,000 Interest in a Share of 5.375% Non-Cumulative Perpetual Preferred Stock, Series Q	New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act:
$1.80 Cumulative Convertible Preferred Stock - Series B, par value $1.00
Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes X 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 X
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 X No
Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes X No
Indicate by check mark if the disclosure of delinquent filers pursuant to Item 405 of Regulation S-K 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. X
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 X	Accelerated filer
Non-accelerated filer	Smaller reporting company
	Emerging growth company

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

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes No X
The aggregate market value of the registrant's outstanding voting common stock held by nonaffiliates on June 30, 2018, determined using the per share closing price on that date on the New York Stock Exchange of $135.10, was approximately $62.7 billion. There is no non-voting common equity of the registrant outstanding.
Number of shares of registrant's common stock outstanding at February 8, 2019: 453,612,522
DOCUMENTS INCORPORATED BY REFERENCE
Portions of the definitive Proxy Statement of The PNC Financial Services Group, Inc. to be filed pursuant to Regulation 14A for the 2019 annual meeting of shareholders (Proxy Statement) are incorporated by reference into Part III of this Form 10-K.

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PART I

Forward-Looking Statements: From time to time, The PNC Financial Services Group, Inc. has made and may continue to make written or oral forward-looking statements regarding our outlook for earnings, revenues, expenses, capital and liquidity levels and ratios, asset levels, asset quality, financial position and other matters regarding or affecting us and our future business and operations or the impact of legal, regulatory or supervisory matters on our business operations or performance. This Annual Report on Form 10-K (the Report or Form 10-K) also includes forward-looking statements. With respect to all such forward-looking statements, you should review our Risk Factors discussion in Item 1A, our Risk Management, Critical Accounting Estimates and Judgments, and Cautionary Statement Regarding Forward-Looking Information sections included in Item 7, and Note 19 Legal Proceedings in the Notes To Consolidated Financial Statements included in Item 8 of this Report. See page 78 for a glossary of certain terms used in this Report. In this Report, "PNC", "we", "us", "the Company" or "the Corporation" refers to The PNC Financial Services Group, Inc. and its subsidiaries on a consolidated basis (except when referring to PNC as a public company, its common stock or other securities issued by PNC, which just refer to The PNC Financial Services Group, Inc.). References to The PNC Financial Services Group, Inc. or to any of its subsidiaries are specifically made where applicable.

ITEM 1 – BUSINESS

Business Overview

Headquartered in Pittsburgh, Pennsylvania, we are one of the largest diversified financial services companies in the United States. We have businesses engaged in retail banking, including residential mortgage, corporate and institutional banking and asset management, providing many of our products and services nationally. Our retail branch network is located in markets across the Mid-Atlantic, Midwest and Southeast. We also have strategic international offices in four countries outside the U.S. At December 31, 2018, our consolidated total assets, total deposits and total shareholders' equity were $382.3 billion, $267.8 billion and $47.7 billion, respectively.

We were incorporated under the laws of the Commonwealth of Pennsylvania in 1983 with the consolidation of Pittsburgh National Corporation and Provident National Corporation. Since 1983, we have diversified our geographical presence, business mix and product capabilities through internal growth, strategic bank and non-bank acquisitions and equity investments, and the formation of various non-banking subsidiaries.

Subsidiaries

Our corporate legal structure at December 31, 2018 consisted of one domestic subsidiary bank, including its subsidiaries, and 35 active non-bank subsidiaries, in addition to various affordable housing investments. Our bank subsidiary is PNC Bank, National Association (PNC Bank), a national bank headquartered in Pittsburgh, Pennsylvania. For additional information on our subsidiaries, see Exhibit 21 to this Report.

Statistical Disclosure By Bank Holding Companies

The following statistical information is included on the indicated pages of this Report and is incorporated herein by reference:

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Supervision and Regulation
The PNC Financial Services Group, Inc. is a bank holding company (BHC) registered under the Bank Holding Company Act of 1956 (BHC Act) and a financial holding company under the Gramm-Leach-Bliley Act (GLB Act).

We are subject to numerous governmental regulations, some of which are highlighted below. See Note 18 Regulatory Matters in the Notes To Consolidated Financial Statements in Item 8 of this Report for additional information regarding our regulatory matters. Applicable laws and regulations restrict our permissible activities and investments, impose conditions and requirements on the products and services we offer and the manner in which they are offered and sold, and require compliance with protections for loan, deposit, brokerage, fiduciary, investment management and other customers, among other things. They also restrict our ability to repurchase stock or pay dividends, or to receive dividends from our bank subsidiary, and impose capital adequacy and liquidity requirements. The consequences of noncompliance with these, or other applicable laws or regulations, can include substantial monetary and nonmonetary sanctions.

In addition, we are subject to comprehensive supervision and periodic examination by, among other regulatory bodies, the Board of Governors of the Federal Reserve System (Federal Reserve) and the Office of the Comptroller of the Currency (OCC). These examinations consider not only compliance with applicable laws, regulations and supervisory policies of the agency, but also capital levels, asset quality, risk management effectiveness, the ability and performance of management and the board of directors, the effectiveness of internal controls, earnings, liquidity and various other factors.

The results of examination activity by any of our federal bank regulators potentially can result in the imposition of significant limitations on our activities and growth. These regulatory agencies generally have broad discretion to impose restrictions and limitations on the operations of a regulated entity and take enforcement action, including the imposition of substantial monetary penalties and nonmonetary requirements, against a regulated entity where the relevant agency determines, among other things, that the operations of the regulated entity or any of its subsidiaries fail to comply with applicable law or regulations, are conducted in an unsafe or unsound manner, or represent an unfair or deceptive act or practice. This supervisory framework, including the examination reports and supervisory ratings (which are not publicly available) of the agencies, could materially impact the conduct, growth and profitability of our operations.

The Consumer Financial Protection Bureau (CFPB) is responsible for examining PNC Bank and its affiliates (including PNC) for compliance with most federal consumer financial protection laws, including the laws relating to fair lending and prohibiting unfair, deceptive or abusive acts or practices in connection with the offer, sale or provision of consumer financial products or services, and for enforcing such laws with respect to PNC Bank and its affiliates. The results of the CFPB’s examinations (which are not publicly available) also can result in restrictions or limitations on the operations of a regulated entity as well as enforcement actions against a regulated entity, including the imposition of substantial monetary penalties and nonmonetary requirements.

We also are subject to regulation by the Securities and Exchange Commission (SEC) by virtue of our status as a public company and by the SEC and the Commodity Futures Trading Commission (CFTC) due to the nature of some of our businesses. Our businesses with operations outside the United States also are subject to regulation by appropriate authorities in the foreign jurisdictions in which they do business.

As a regulated financial services firm, our relationships and good standing with regulators are of fundamental importance to the operation and growth of our businesses. The Federal Reserve, OCC, CFPB, SEC, CFTC and other domestic and foreign regulators have broad enforcement powers, and certain of the regulators have the power to approve, deny, or refuse to act upon our applications or notices to conduct new activities, acquire or divest businesses, assets or deposits, expand our operations geographically, or reconfigure existing operations.

Among the areas that have been receiving a high level of regulatory focus are compliance with the Bank Secrecy Act and anti-money laundering laws, capital and liquidity management, fair lending and other consumer protection laws and regulations, including those governing retail sales practices, fee disclosures, unfair, deceptive or abusive acts or practices, collection practices, and protections for military service members and individuals in bankruptcy, cyber security, capital planning and stress testing, the oversight of arrangements with third-party vendors and suppliers, the protection of confidential customer information, and the structure and effectiveness of enterprise risk management frameworks.

New legislation, changes in rules promulgated by federal financial regulators, other federal and state regulatory authorities and self-regulatory organizations, or changes in the interpretation or enforcement of existing laws and rules, may directly affect the operations and profitability of our businesses. We anticipate new legislative and regulatory initiatives over the next several years, focused specifically on banking and other financial services in which we are engaged. Legislative and regulatory developments to date, as well as those that come in the future, have had and are likely to continue to have an impact on the conduct of our business. The more detailed description of the significant regulations to which we are subject included in this Report is based on current laws and regulations and is subject to potentially material change. See also the additional information included as Risk Factors in Item 1A of this Report discussing the impact of financial regulatory initiatives on the regulatory environment for us and the financial services industry.

The profitability of our businesses could also be affected by rules and regulations that impact the business and financial sectors in general, including changes to the laws governing taxation, antitrust regulation, electronic commerce, data security and privacy.

There are numerous rules governing the regulation of financial services institutions and their holding companies. Accordingly, the following discussion is general in nature and does not purport to be complete or to describe all of the laws, regulations and supervisory policies that apply to us. To a substantial extent, the purpose of the regulation and supervision of financial services institutions and their holding companies is not to protect our shareholders and our non-customer creditors, but rather to protect our customers (including depositors) and the financial markets and financial system in general.

Banking Regulation and Supervision

Regulatory Capital Requirements, Stress Testing and Capital Planning. PNC and PNC Bank are subject to the regulatory capital requirements established by the Federal Reserve and the OCC, respectively. The foundation of the agencies’ regulatory capital rules is the international regulatory capital framework developed by the Basel Committee on Banking Supervision (Basel Committee), the international body responsible for developing global regulatory standards for banking organizations for consideration and adoption by national jurisdictions. The regulatory capital rules establish minimum requirements for the ratio of a banking organization’s regulatory capital to its risk-weighted assets, referred to as risk-based capital requirements, as well as for the ratio of its regulatory capital to measures of assets and other exposures, referred to as leverage capital requirements. The agencies’ regulatory capital rules have undergone significant change since 2013, when the agencies adopted final rules to implement the Basel Committee's international regulatory capital framework, known as “Basel III”, as well as certain provisions of the Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank). Certain provisions (described below) of these rules currently apply only to banking organizations that have $250 billion or more in total consolidated assets (such as PNC and PNC Bank) or that have $10 billion or more in on-balance sheet foreign exposure (referred to as advanced approaches banking organizations).

In 2018, the Federal Reserve, OCC and Federal Deposit Insurance Corporation (FDIC) requested comment on a set of proposed rules that would better tailor the application of the agencies’ capital (including stress testing) and liquidity rules, and the Federal Reserve’s enhanced prudential standards (EPS) adopted under Section 165 of Dodd-Frank, to banking organizations with $100 billion or more in consolidated total assets based on the risk profile and asset size of the organization (the Tailoring Proposals). The Tailoring Proposals would classify all bank holding companies (BHCs) with $100 billion or more in total assets into one of four categories (Category I, Category II, Category III and Category IV), with the most stringent capital, liquidity and EPS requirements applying to Category I firms and the least restrictive requirements applying to Category IV firms. The classification of any bank subsidiary of a BHC would generally follow that of its parent BHC. PNC and PNC Bank would be Category III firms under the Tailoring Proposals because PNC (i) has more than $250 billion in consolidated total assets, (ii) is not designated as a globally systemically important bank (GSIB), and (iii) has less than $75 billion in cross-jurisdictional activity (as defined by the proposals). The public comment period on the Tailoring Proposals closed on January 22, 2019. As described below, the Tailoring Proposals, if adopted in the form proposed, would make several important changes to the capital, liquidity and enhanced prudential standards requirements applicable to PNC and PNC Bank. However, it is unclear when, or if, the agencies may finalize the Tailoring Proposals or when the provisions of the Tailoring Proposals (if adopted in final) might become effective. In addition, any final tailoring rules adopted by the agencies could differ, perhaps materially, from the proposals issued for comment.

The regulatory capital rules generally divide regulatory capital into three components: common equity tier 1 (CET1) capital, additional Tier 1 capital (which, together with CET1 capital, comprises Tier 1 capital) and Tier 2 capital. CET1 capital is generally common stock, retained earnings, qualifying minority interest and, for PNC and PNC Bank as advanced approaches banking organizations, accumulated other comprehensive income (AOCI) related to both available for sale securities and pension and other post-retirement plans, less the deductions required to be made from CET1 capital. The Tailoring Proposals would allow PNC and PNC Bank to elect to exclude AOCI related to both available for sale securities and pension and other post-retirement plans from CET1 capital. Additional Tier 1 capital generally includes, among other things, perpetual preferred stock and qualifying minority interests, less the deductions required to be made from additional Tier 1 capital. Tier 2 capital generally comprises qualifying subordinated debt, less any required deductions from Tier 2 capital. There are significant limits on the extent to which minority interests in consolidated subsidiaries may be included in regulatory capital.

Total capital is the sum of Tier 1 capital and Tier 2 capital, less the deductions required from Total capital. Under the current regulatory capital rules, PNC and PNC Bank must deduct significant common stock investments in unconsolidated financial institutions, as well as mortgage servicing rights and deferred tax assets, from CET1 capital (in each case, net of associated deferred tax liabilities) to the extent such items individually exceed 10%, or in the aggregate exceed 15%, of the institution's adjusted CET1 capital. Under the Tailoring Proposals, PNC and PNC Bank would have to deduct each of the amounts for significant common stock investments in unconsolidated financial institutions, mortgage servicing rights and deferred tax assets from CET1 capital (in each case, net of associated deferred tax liabilities) to the extent such items individually exceed 25% of the institution's adjusted CET1 capital. PNC's common stock investment in BlackRock is treated as a significant common stock investment in an unconsolidated financial institution for these purposes. As of December 31, 2018, a portion of PNC’s common stock investment in BlackRock was deducted from CET1 capital. If the Tailoring Proposals had been in effect as of December 31, 2018, no portion of PNC’s common stock investment in BlackRock would have been deducted from CET1 capital.

In 2018, the banking agencies jointly adopted a final rule that permits banking organizations to elect to phase-in, on a straight-line basis over a three-year period, the day-one regulatory capital effects of implementing the Financial Accounting Standards Board’s (FASB) Accounting Standards Update (ASU) 2016-13 Financial Instruments - Credit Losses (Topic 326), commonly referred to as the Current Expected Credit Losses (CECL) standard. PNC expects to implement the CECL standard effective January 1, 2020. The final rule also generally replaces references to the allowance for loan and lease losses (ALLL) in the regulatory capital and certain other rules of the agencies with references to the allowance for credit losses (ACL) for institutions that have adopted CECL. See the Critical Accounting Estimates and Judgments section of Item 7 of this Report for more detail on the CECL standard.

The regulatory capital rules include a standardized approach for determining a banking organization’s risk-weighted assets for purposes of calculating the risk-based capital ratios. To determine risk-weighted assets under the standardized approach, a banking organization must allocate its assets and specified off-balance sheet financial exposures and instruments into risk-weighted categories. The standardized approach for risk-weighted assets takes into account credit and market risk. To calculate risk-weighted assets under the standardized approach for credit risk, the nominal dollar amounts of assets and credit equivalent amounts of off-balance sheet items are generally multiplied by risk weights set forth in the rules, with the risk weights increasing as the perceived credit risk of the relevant asset or exposure increases. For certain types of exposures, such as securitization exposures, the standardized approach establishes one or more methodologies that are to be used to calculate the risk-weighted asset amount for the exposure. High volatility commercial real estate, past due, securitization and equity exposures, as well as investments in unconsolidated financial institutions, mortgage servicing rights and deferred tax assets that are not deducted from capital, are generally subject to higher risk weights than other types of exposures.

Under the currently effective regulatory capital rules, banking organizations with $250 billion or more in total consolidated assets (such as PNC and PNC Bank) are also required to calculate risk-weighted assets using a separate methodology, referred to as the advanced approaches, that is based on the Basel II capital framework. The Basel II framework seeks to provide more risk-sensitive regulatory capital calculations and promote enhanced risk management practices among large, internationally active banking organizations. Advanced approaches risk-weighted assets take into account credit, market and operational risk and rely to a significant extent on internal models. Prior to fully implementing the advanced approaches to calculate risk-weighted assets, PNC and PNC Bank must successfully complete a parallel run qualification phase. PNC and PNC Bank entered this parallel run qualification phase on January 1, 2013.

Because we remain in the parallel run qualification phase for the advanced approaches, our regulatory risk-based capital ratios in 2018 were calculated using the standardized approach for determining risk-weighted assets. Until we have exited parallel run, our regulatory risk-based capital ratios will be calculated using the standardized approach for determining risk-weighted assets. Under the currently effective capital rules, once we exit parallel run, our regulatory risk-based capital ratios will be the lower of the ratios calculated under the standardized approach and the advanced approaches. Under the Tailoring Proposals, PNC and PNC Bank would no longer be considered an advanced approaches banking organization for these purposes and would no longer be required to calculate advanced approaches risk-weighted assets.

With the exception of certain nonqualifying trust preferred capital securities included in PNC’s Total risk-based capital (which remain subject to a phase-out period that runs through 2021), the transitions and multi-year phase-in of the definition of capital under the Basel III rules were completed as of January 1, 2018. Accordingly, we refer to the capital ratios calculated using the definition of capital in effect as of January 1, 2018 and, for the risk-based ratios, standardized risk-weighted assets, as our Basel III regulatory capital ratios. The Basel III regulatory capital ratios of PNC and PNC Bank as of December 31, 2018 exceeded the applicable minimum levels. For additional information regarding the Basel III ratios of PNC and PNC Bank as of December 31, 2018, as well as the levels needed to be considered "well capitalized", see the Liquidity and Capital Management portion of the Risk Management section of Item 7 of this Report.

The risk-based capital rules establish certain minimum standards for the capital ratios of banking organizations, including PNC and PNC Bank. Banking organizations must maintain a minimum CET1 ratio of 4.5%, a Tier 1 capital ratio of 6.0%, and a Total capital ratio of 8.0%, in each case in relation to risk-weighted assets, to be considered "adequately capitalized." Banking organizations also must maintain a capital conservation buffer requirement above the minimum risk-based capital ratio requirements in order to avoid limitations on capital distributions (including dividends and repurchases of any Tier 1 capital instrument, such as common and qualifying preferred stock) and certain discretionary incentive compensation payments. The capital conservation buffer requirement became fully phased in as of January 1, 2019. As a result, banking organizations (including PNC and PNC Bank) now are required to maintain a CET1 capital ratio of at least 7.0%, a Tier 1 capital ratio of at least 8.5%, and a Total capital ratio of at least 10.5% to avoid limitations on capital distributions and certain discretionary incentive compensation payments.

For banking organizations with $250 billion or more in total consolidated assets (such as PNC and PNC Bank), these higher capital conservation buffer levels above the regulatory minimums could be supplemented by a countercyclical capital buffer of up to an additional 2.5% of risk-weighted assets. This buffer is currently set at zero in the U.S. A Federal Reserve policy statement establishes the framework and factors the Federal Reserve would use in setting and adjusting the amount of the U.S. countercyclical capital buffer. Covered banking organizations would generally have 12 months after the announcement of any increase in the countercyclical capital buffer to meet the increased buffer requirement, unless the Federal Reserve determines to establish an earlier effective date. If the full countercyclical buffer amount is implemented, PNC and PNC Bank would be required to maintain a CET1 capital ratio of at least 9.5%, a Tier 1 capital ratio of at least 11%, and a Total capital ratio of at least 13% to avoid limitations on capital distributions and certain discretionary incentive compensation payments.

PNC and PNC Bank are not subject to the additional CET1 capital surcharge, minimum long-term debt requirement, or minimum total loss-absorbing capacity (TLAC) requirement that applies to U.S. GSIBs.

The regulatory capital rules also require that banking organizations maintain a minimum amount of Tier 1 capital to average consolidated assets, referred to as the leverage ratio. Banking organizations are required to maintain a minimum leverage ratio of Tier 1 capital to total assets of 4.0%. As of December 31, 2018, the leverage ratios of PNC and PNC Bank were above the required minimum level.

Banking organizations with $250 billion or more in total consolidated assets (such as PNC and PNC Bank) also are subject to a minimum 3.0% supplementary leverage ratio. The supplementary leverage ratio is calculated by dividing Tier 1 capital by total leverage exposure, which takes into account on-balance sheet assets as well as certain off-balance sheet items, including loan commitments and potential future exposure under derivative contracts. BHCs with total consolidated assets of more than $700 billion or assets under custody of more than $10 trillion, as well as the insured depository institution subsidiaries of these BHCs, are subject to a higher supplementary leverage ratio requirement. These higher supplementary leverage requirements do not apply to PNC or PNC Bank.

Failure to meet applicable capital requirements could subject a banking organization to a variety of enforcement remedies available to the federal banking agencies, including a limitation on the ability to pay dividends or repurchase shares, the issuance of a capital directive to increase capital and, in severe cases, the termination of deposit insurance by the FDIC, and the appointment of a conservator or receiver. In some cases, the extent of these powers depends upon whether the institution in question is considered “well capitalized,” “adequately capitalized,” “undercapitalized,” “significantly undercapitalized” or “critically undercapitalized.” The thresholds at which an insured depository institution is considered “well capitalized,” “adequately capitalized,” “undercapitalized,” “significantly undercapitalized” or “critically undercapitalized” are based on (i) the institution’s CET1, Tier 1 and total risk-based capital ratios; (ii) the institution’s leverage ratio; and (iii) for the definitions of “adequately capitalized” and “undercapitalized”, the institution’s supplementary leverage ratio. Generally, the smaller an institution’s capital base in relation to its risk-weighted or total assets, the greater the scope and severity of the agencies’ powers. Business activities may also be affected by an institution’s capital classification. For example, as a financial holding company, PNC and PNC Bank must remain “well capitalized.” At December 31, 2017, PNC and PNC Bank exceeded the required ratios for classification as “well capitalized.” For additional discussion of capital adequacy requirements, see the Liquidity and Capital Management portion of the Risk Management section of Item 7 of this Report and to Note 18 Regulatory Matters in the Notes To Consolidated Financial Statements in Item 8 of this Report.

As discussed further in Item 1A Risk Factors of this Report, the Basel Committee in 2017 finalized additional, significant changes to the Basel III international capital framework for banking organizations. The extent to and manner in which these or similar changes by the Basel Committee would be implemented by the U.S. banking agencies, and the implications of any such developments on the U.S. regulatory capital framework applicable to PNC and PNC Bank, are not fully known at this time.

In addition to regulatory capital requirements, we are subject to the Federal Reserve's capital plan rule, annual capital stress testing requirements and Comprehensive Capital Analysis and Review (CCAR) process, as well as the annual and mid-year Dodd-Frank capital stress testing (DFAST) requirements of the Federal Reserve (annual and mid-cycle) and the OCC (annual).

As part of the CCAR process, the Federal Reserve undertakes a supervisory assessment of the capital planning process of BHCs, including PNC, that have $100 billion or more in total consolidated assets. For us, this capital planning assessment is based on a review of a comprehensive capital plan submitted to the Federal Reserve that describes the company's planned capital actions, such as plans to pay or increase common stock dividends, engage in common stock repurchase programs, or issue or redeem preferred stock or other regulatory capital instruments, during the nine quarter review period, as well as the results of stress tests conducted by both the company and the Federal Reserve under different hypothetical macro-economic scenarios, including a supervisory adverse scenario and severely adverse scenario provided by the Federal Reserve. The agencies have requested comment on proposed rules that would eliminate the supervisory adverse scenario in the CCAR and DFAST stress testing processes, but it is unclear when or if these proposals may be finalized, or when these changes (if adopted in final) might become effective.

The Federal Reserve can object to our capital plan for qualitative or quantitative reasons. If the Federal Reserve objects to a BHC’s capital plan, the BHC cannot make capital distributions without Federal Reserve approval. In evaluating PNC's capital plan, the Federal Reserve considers a number of qualitative factors, which have become increasingly important in the CCAR process in recent years. The Federal Reserve’s supervisory expectations for the capital planning and stress testing processes at large and complex BHCs, including PNC, are heightened relative to smaller and less complex BHCs. In assessing a BHC’s capital planning and stress testing processes, the Federal Reserve considers whether the BHC has sound and effective governance to oversee these processes. The Federal Reserve’s evaluation focuses on whether a BHC’s capital planning and stress testing processes are supported by a strong risk management framework to identify, measure and assess material risks and that provides a strong foundation to capital planning. The Federal Reserve also considers the comprehensiveness of a BHC’s control framework and evaluates a BHC’s policy guidelines for capital planning and assessing capital adequacy. A BHC’s stress testing scenario design processes and approaches for estimating the impact of stress on its capital position, including stress testing models and non-model qualitative approaches, are comprehensively reviewed to ensure that projections reflect the impact of appropriately stressful conditions, as well as risks idiosyncratic to the BHC, on its capital position. Significant deficiencies in a BHC’s capital planning and stress testing processes may result in a qualitative objection by the Federal Reserve to its capital plan.

From a quantitative perspective, the Federal Reserve considers whether under different hypothetical macro-economic scenarios, including the supervisory severely adverse scenario, the BHC would be able to maintain, throughout each quarter of the nine quarter review period, projected regulatory risk-based and leverage capital ratios that exceed the applicable minimums. In making these estimates, the Federal Reserve assumes that the BHC would continue its base case capital actions in each supervisory scenario, including the severely adverse scenario. Failure to meet a minimum regulatory risk-based or leverage capital requirement on a projected stress basis is grounds for objection to a BHC’s capital plan.

In connection with the 2019 CCAR exercise, we must file our capital plan and stress testing results using financial data as of December 31, 2018 with the Federal Reserve by April 5, 2019. We expect to receive the Federal Reserve’s response (either a non-objection or objection) to the capital plan submitted as part of the 2019 CCAR in June 2019.

As part of the CCAR and annual DFAST processes, both we and the Federal Reserve release certain revenue, loss and capital results from stress testing exercises. For the 2019 exercises, the Federal Reserve has announced that it intends to publish its supervisory revenue, loss and capital projections for participating BHCs under the supervisory adverse and severely adverse macro-economic scenarios using the common assumptions concerning capital distributions established by the Federal Reserve in its DFAST regulations, as well as capital ratio information using the company’s proposed base case capital actions. Within 15 days of the Federal Reserve publishing its DFAST results, we also are required to publicly disclose our own estimates of certain capital, revenue and loss information under the same hypothetical supervisory severely adverse macro-economic scenario and applying the same capital action assumptions.

Federal Reserve regulations also require that we and other large BHCs conduct a separate, mid-cycle stress test using financial data as of June 30 and three company-derived macro-economic scenarios (base, adverse and severely adverse) and publish a summary of the results under the severely adverse scenario. For the 2019 mid-cycle stress test cycle, we must publish our results in the period between October 5 and November 4, 2019. Under the Tailoring Proposals, the Federal Reserve has proposed to eliminate the mid-cycle DFAST stress test beginning in 2020, and to allow Category III BHCs (like PNC) to conduct the company-run DFAST stress test biennially (rather than annually, as currently required).

The Federal Reserve's capital plan rule provides that a BHC must resubmit a new capital plan prior to the annual submission date if, among other things, there has been or will be a material change in the BHC's risk profile, financial condition or corporate structure since its last capital plan submission. Under the "de minimis" safe harbor of the Federal Reserve's capital plan rule, we may make limited repurchases of common stock or other capital distributions in amounts that exceed the amounts included in our most recently approved capital plan subject to certain conditions, including that the Federal Reserve does not object to the additional repurchases or distributions. Such additional distributions may not exceed, in the aggregate, 0.25% of Tier 1 capital during the relevant 12-month period. The Federal Reserve's capital plan rule also allows a BHC to request the Federal Reserve's approval to make additional capital distributions, above the amounts permitted by this de minimis safe harbor and the amounts included in its most recently approved capital plan, provided that, among other things, the request is filed between July 1 and March 30 of the relevant capital plan year. In 2018, PNC received approval from the Federal Reserve for additional capital distributions above the amounts included in our most recently approved capital plan. See the Liquidity and Capital Management portion of the Risk Management section in Item 7 of this Report for additional detail.

In 2018, the Federal Reserve requested public comment on a proposal that would integrate its capital plan rule, stress test rules and the annual CCAR exercise with its Basel III regulatory capital rules. Among other things, the proposal would introduce new CET1 and

Tier 1 leverage stress capital buffer requirements. The CET1 and Tier 1 leverage stress capital buffers for a covered BHC would equal (i) the percentage decline in the BHC’s CET1 and Tier 1 leverage ratios, respectively, in the most recently completed CCAR exercise as projected by the Federal Reserve under its supervisory severely adverse scenario, plus (ii) the BHC’s projected common stock dividends in the fourth through seventh quarter of that exercise (expressed as a ratio to the BHC’s total risk-weighted assets or average total consolidated assets, as applicable). The CET1 stress capital buffer would have a minimum “floor” of 2.5%. The CET1 and Tier 1 leverage stress capital buffers would replace the Basel III capital conservation buffer for covered BHCs. That is, a covered BHC (such as PNC) would, for example, be subject to limitations on capital distributions and certain discretionary incentive compensation payments if its CET1 ratio fell below (i) 4.5%, plus (ii) its applicable CET1 stress capital buffer, plus (iii) any applicable countercyclical capital buffer (which is currently set at zero in the United States). BHCs that are GSIBs or have exited parallel run under the advanced approaches would be subject to additional capital buffer requirements. In connection with these changes, the Federal Reserve proposed to make a number of other changes to the CCAR process.

Regulatory Liquidity Standards and Liquidity Risk Management Requirements. The Basel Committee's Basel III framework includes short-term liquidity standards (Liquidity Coverage Ratio or LCR) and long-term funding standards (Net Stable Funding Ratio or NSFR).

The U.S. banking agencies' LCR rules are designed to ensure that covered banking organizations maintain an adequate level of cash and high quality, unencumbered liquid assets (HQLA) to meet estimated net liquidity needs in a short-term stress scenario using liquidity inflow and outflow assumptions prescribed in the rules (net cash outflow). A company’s LCR is the amount of its HQLA, as defined and calculated in accordance with the haircuts and limitations in the rule, divided by its net cash outflows, with the quotient expressed as a percentage. The regulatory minimum LCR that covered banking organizations are required to maintain is 100%. As of December 31, 2018, the LCR for PNC and PNC Bank exceeded the fully phased-in requirement of 100%.

Top-tier BHCs (like PNC) that have $250 billion or more in assets, as well as any subsidiary depository institution of such a company that has $10 billion or more in total consolidated assets (such as PNC Bank), currently are subject to the full LCR (rather than the less stringent modified LCR). PNC and PNC Bank are required to calculate the LCR on a daily basis. Under the full LCR, an institution required to calculate the LCR on a daily basis must promptly provide its regulator with a plan for achieving compliance with the minimum LCR requirement if its LCR is below the minimum requirement for three consecutive business days.

The Federal Reserve requires large BHCs, including PNC, to publicly disclose certain quantitative and qualitative measures of their LCR-related liquidity profile. These disclosures include major components used to calculate the LCR (e.g., HQLA, cash outflows and inflows for the consolidated parent company), and a qualitative discussion of the BHC’s LCR results, including, among other things, key drivers of the results, composition of HQLA and concentration of funding sources. We began making these disclosures (through postings on our website) in the second quarter of 2018.

The NSFR is designed to promote a stable maturity structure of assets and liabilities of banking organizations over a one-year time horizon. In 2016, the federal banking agencies requested comment on proposed rules that would implement the NSFR in the United States. The proposed rules would require a covered BHC to calculate its NSFR as the ratio of its available stable funding (ASF) to its required stable funding (RSF) amount, each as defined in the proposed rules, over a one-year horizon. The regulatory minimum ratio for all covered banking organizations (expressed as a percentage) is 100%. Under the proposal, PNC and PNC Bank would be subject to the full NSFR, rather than the less stringent modified NSFR. The proposal also includes requirements for quarterly quantitative and qualitative NSFR disclosures. Although the impact on us will not be fully known until the rules are finalized, we have taken several actions to prepare for implementation of the NSFR and we expect to be in compliance with the NSFR requirements if and when they become effective.

The Tailoring Proposals would reduce the LCR requirements and the proposed NSFR requirements for Category III banking organizations that, like PNC and PNC Bank, have less than $75 billion in weighted short-term wholesale funding. Under the Tailoring Proposals, the net cash ouflows calculated under the LCR rules and the RSF amount determined under the proposed NSFR rules for such a Category III organization would be scaled by a factor of between 70% and 85%, thereby reducing the amount of HQLA and ASF that the organization would have to maintain to meet its LCR and NSFR minimum ratio, respectively.

PNC also is subject to Federal Reserve rules that require BHCs with $100 billion or more in consolidated total assets to, among other things, conduct internal liquidity stress tests over a range of time horizons, maintain a buffer of highly liquid assets sufficient to meet projected net outflows under the BHC's 30-day liquidity stress test, and maintain a contingency funding plan that meets certain requirements.

For additional discussion of regulatory liquidity requirements, please refer to the Liquidity and Capital Management portion of the Risk Management section of Item 7 of this Report.

Source of Parent Company Liquidity and Dividends. The principal source of our liquidity at the parent company level is dividends from PNC Bank. PNC Bank is subject to various restrictions on its ability to pay dividends to PNC Bancorp, Inc., its direct parent, which is a wholly-owned direct subsidiary of The PNC Financial Services Group, Inc. PNC Bank is also subject to federal laws limiting extensions of credit to its parent holding company and non-bank affiliates as discussed in Note 18 Regulatory Matters in the Notes To Consolidated Financial Statements in Item 8 of this Report. Further information on bank level liquidity and parent company liquidity is also available in the Liquidity and Capital Management portion of the Risk Management section of Item 7 of this Report

Federal Reserve rules provide that a BHC is expected to serve as a source of financial strength to its subsidiary banks and to commit resources to support such banks if necessary. Dodd-Frank requires that the Federal Reserve jointly adopt new rules with the OCC and the FDIC to implement this source of strength requirement. These joint rules have not yet been proposed. Consistent with this source of strength policy for subsidiary banks, the Federal Reserve has stated that, as a matter of prudent banking, a BHC generally should not maintain a rate of cash dividends unless its net income available to common shareholders has been sufficient to fully fund the dividends and the prospective rate of earnings retention appears to be consistent with the corporation’s capital needs, asset quality and overall financial condition. Further, in providing guidance to the large BHCs participating in the CCAR exercise, discussed above, the Federal Reserve has expected capital plans to reflect conservative dividend payout ratios. Requests that imply common dividend payout ratios above 30% of projected after-tax net income available to common shareholders have typically received particularly close scrutiny.

Enhanced Prudential Requirements. Under Federal Reserve rules, PNC and other BHCs with total consolidated assets of $100 billion or more are subject to various enhanced prudential standards related to liquidity risk management and overall risk management. For PNC, these rules, among other things, establish liquidity stress testing requirements (discussed above), limitations on PNC’s aggregate net credit exposures to any single, unaffiliated company (referred to as the single counterparty credit limit (SCCL)), and certain oversight and governance responsibilities for PNC's chief risk officer, the board of directors, and the risk committee of the board of directors. Under the Federal Reserve’s SCCL rules, which become effective July 1, 2020, PNC’s aggregate net credit exposure (including exposure resulting from, among other transactions, extensions of credit, repurchase and reverse repurchase transactions, investments in securities, and derivative transactions) to any unaffiliated counterparty may not exceed 25% of PNC’s Tier 1 capital. PNC is in the process of obtaining guidance from the Federal Reserve on how investments accounted for under the equity method, such as its investment in BlackRock, should be treated for purposes of the SCCL. At present, we do not expect the SCCL will have a material impact on PNC.

Under Dodd-Frank, the Federal Reserve is required to impose a maximum 15-to-1 debt to equity ratio on a BHC if the federal agencies that comprise the Financial Stability Oversight Council (FSOC) determine that the company poses a grave threat to the financial stability of the United States and that the imposition of such a debt-to-equity requirement would mitigate such risk. The Federal Reserve also is required to establish early remediation requirements for BHCs with more than $250 billion in total assets and continues to work towards finalizing these requirements.

The Federal Reserve may continue to develop the set of enhanced prudential standards that apply to large BHCs in order to further promote the resiliency of such firms and the U.S. financial system. For additional information, see Item 1A Risk Factors of this Report.

Additional Powers Under the GLB Act. The GLB Act permits a qualifying BHC, such as PNC, to become a “financial holding company” and thereby engage in, or affiliate with financial companies engaging in, a broader range of activities than would otherwise be permitted for a BHC. Permitted affiliates include securities underwriters and dealers, insurance companies, insurance agents and companies engaged in other activities that are determined by the Federal Reserve, in consultation with the Secretary of the Treasury, to be “financial in nature or incidental thereto” or are determined by the Federal Reserve unilaterally to be “complementary” to financial activities. We became a financial holding company as of March 13, 2000. A BHC qualifies to become a financial holding company if the BHC and its subsidiary depository institutions are “well capitalized” and “well managed” and its subsidiary depository institutions have a rating under the Community Reinvestment Act (CRA) of Satisfactory or better. Among other activities, we currently rely on our status as a financial holding company to conduct merchant banking activities and securities underwriting and dealing activities. As subsidiaries of a financial holding company under the GLB Act, our non-bank subsidiaries are generally allowed to conduct new financial activities, and we are generally permitted to acquire non-bank financial companies that have less than $10 billion in assets, with after-the-fact notice to the Federal Reserve.

In addition, the GLB Act permits qualifying national banks to engage in expanded activities through a “financial subsidiary.” PNC Bank has filed a financial subsidiary certification with the OCC and currently engages in insurance agency activities through financial subsidiaries. PNC Bank may also generally engage through a financial subsidiary in any activity that is determined to be financial in nature or incidental to a financial activity by the Secretary of the Treasury, in consultation with the Federal Reserve (other than insurance underwriting activities, insurance company investment activities and merchant banking). In order to establish a financial subsidiary, a national bank and each of its depository institution affiliates must be “well capitalized” and “well managed” and the national bank and each of its depository institution affiliates must have a CRA rating of Satisfactory or better.

If a financial holding company or a national bank with a financial subsidiary fails to continue to meet the applicable "well capitalized" or "well managed" criteria, the financial holding company or national bank must enter into an agreement with the Federal Reserve or the OCC, respectively, that, among other things, identifies how the capital or management deficiencies will be corrected. Until such deficiencies are corrected, the relevant agency may impose limits or conditions on the activities of the company or bank, and the company or bank may not engage in, or acquire a company engaged in, the types of expanded activities only permissible for a financial holding company or financial subsidiary without prior approval of the relevant agency.

In addition, a financial holding company generally may not engage in a new financial activity authorized by the GLB Act, or acquire a company engaged in such a new activity, if any of its insured depository institutions receives a CRA rating of less than Satisfactory rating. A national bank's financial subsidiary generally may not engage in a new financial activity authorized by the GLB Act, or acquire a company engaged in such a new financial activity, if the national bank or any of its insured depository institution affiliates received a CRA rating of less than Satisfactory.

At December 31, 2018, PNC Bank had an Outstanding rating with respect to the CRA.

Volcker Rule. The Volcker Rule and its implementing regulations prohibit banking entities (as defined by the statute and its implementing regulations) from engaging in short-term trading as principal and having certain ownership interests in and relationships with hedge funds, private equity funds, and certain other private funds (together, "covered funds"), unless an exemption or exception applies. For example, the exemptions under the Volcker Rule allow banking entities to trade as principal for securities underwriting, market making and risk-mitigating hedging purposes, subject to a variety of conditions.

To date, the prohibitions under the final Volcker Rule regulations have not had, and we do not expect them to have in the future, a material effect on our businesses or revenue. However, the conditions for engaging in exempted trading activities and having permissible relationships with a private fund under the regulations could, depending on the agencies' approach to interpreting them, cause us to forego engaging in hedging or other transactions that we would otherwise undertake in the ordinary course of business and, thus, to some extent, may limit our ability to most effectively hedge our risks, manage our balance sheet or provide products or services to our customers.

The final Volcker Rule regulations impose significant compliance and reporting obligations on banking entities. We have adopted an enterprise Volcker Rule compliance program in accordance with the enhanced compliance program requirements of the agencies' current regulations. We have also divested prohibited investments in covered funds and received extensions allowing an extended conformance period for our remaining $.1 billion interests in illiquid covered funds (as defined by the applicable requirements).

In 2018, the agencies jointly requested comment on proposed changes to the final Volcker Rule regulations that would, among other things, (i) streamline the compliance program requirements for banking entities (like PNC) that have trading assets and liabilities (excluding trading assets and liabilities involving U.S. government and agency obligations) of more than $1 billion, but less than $10 billion, and (ii) simplify the requirements for engaging in permissible risk-mitigating hedging activities. The proposal also would introduce a new requirement for identifying positions deemed to be held in a trading account which, if adopted as proposed, could have a negative impact on the ability of banking entities (including PNC) to effectively manage risks, make longer-term investments, and seed new funds.

Other Federal Reserve and OCC Regulation and Supervision. The federal banking agencies possess broad powers to take corrective action as deemed appropriate based on the actions, operations or risk management programs of a BHC, an insured depository institution or their subsidiaries, and the Federal Reserve and the OCC have the ability to take enforcement action against PNC and PNC Bank, respectively, to prevent and remedy acts and practices that the agencies determine to be unfair or deceptive. A finding that we have engaged in a deceptive act or practice may have collateral consequences on our ability to rely on certain exemptions, or take advantage of certain provisions of, the securities laws absent a government waiver of such restrictions.

Moreover, less than satisfactory examination ratings, lower capital ratios than peer group institutions, or regulatory concerns regarding management, controls, assets, operations or other factors can all potentially result in practical limitations on the ability of a bank or BHC to engage in new activities, grow, acquire new businesses, repurchase its stock or pay dividends, or continue to conduct existing activities. Furthermore, the OCC has established certain heightened risk management and governance standards for large banks, including PNC Bank, as enforceable guidelines under Section 39 of the Federal Deposit Insurance Act (FDI Act). The guidelines, among other things, establish minimum standards for the design and implementation of a risk governance framework, describe the appropriate risk management roles and responsibilities of front line units, independent risk management, internal audit, and the board of directors, and provide that a covered bank should have a comprehensive written statement that articulates its risk appetite and serves as a basis for the framework. If the OCC determines that a covered national bank is not in compliance with these or other guidelines established under Section 39 of the FDI Act (including the guidelines relating to information security standards), the OCC may require the bank to submit a corrective action plan and may initiate enforcement action against the bank if an acceptable plan is not submitted or the bank fails to comply with an approved plan.

Sections 23A and 23B of the Federal Reserve Act and the Federal Reserve’s implementing regulation, Regulation W, place quantitative and qualitative restrictions on covered transactions between a bank and its affiliates (for example between PNC Bank, on the one hand, and The PNC Financial Services Group, Inc. and its nonbank subsidiaries, on the other hand). In general, Section 23A and Regulation W limit the total amount of covered transactions between a bank and any single affiliate to 10% of the bank’s capital stock and surplus, limit the total amount of covered transactions between a bank and all its affiliates to 20% of the bank’s capital stock and surplus, prohibit a bank from purchasing low-quality assets from an affiliate, and require certain covered transactions to be secured with prescribed amounts of collateral. Section 23B generally requires that transactions between a bank and its affiliates be on terms that are at least as favorable to the bank as the terms that would apply in comparable transactions between the bank and a third party. Dodd-Frank amended Section 23A of the Federal Reserve Act to include as a covered transaction the credit exposure of a bank to an affiliate arising from a derivative transaction with the affiliate. The Federal Reserve has yet to propose rules to implement these revisions.

The Federal Reserve and the OCC have provided guidance regarding incentive and other elements of compensation provided to executives and other employees at banking organizations they regulate, both as general industry-wide guidance and guidance specific to select larger companies, including PNC. These guidelines are intended to ensure that the incentive compensation practices of covered banking organizations do not encourage excessive risk-taking. The Federal Reserve, the OCC, the FDIC, the SEC and two other regulatory agencies jointly proposed regulations in 2011 and again in 2016 to implement the incentive compensation requirements of Section 956 of Dodd-Frank. Final regulations implementing Section 956 have not been adopted. Regulation of compensation provided by us to our executives and other employees, whether through guidance or rules and regulations, could hamper our ability to attract and retain quality employees.

The Federal Reserve’s prior approval is required whenever we propose to acquire all or substantially all of the assets of any bank, to acquire direct or indirect ownership or control of more than 5% of any class of voting securities of any bank or BHC, or to merge or consolidate with any other BHC. The BHC Act and other federal law enumerates the factors the Federal Reserve must consider when reviewing the merger of BHCs, the acquisition of banks or the acquisition of voting securities of a bank or BHC. These factors include the competitive effects of the proposal in the relevant geographic markets; the financial and managerial resources and future prospects of the companies and banks involved in the transaction; the effect of the transaction on the financial stability of the United States; the organizations’ compliance with anti-money laundering laws and regulations; the convenience and needs of the communities to be served; and the records of performance under the CRA of the insured depository institutions involved in the transaction.

The Federal Reserve’s prior approval is also required, and similar factors are considered, for a BHC to acquire direct or indirect ownership or control of more than 5% of any class of voting securities of a savings association or savings and loan holding company, or to merge or consolidate with a savings and loan holding company. In cases involving interstate bank acquisitions, the Federal Reserve also must consider the concentration of deposits nationwide and in certain individual states. A BHC is generally prohibited from merging or consolidating with, or acquiring, another company if upon consummation the resulting company would control 10% or more of deposits in the U.S or a state, or if the resulting company’s liabilities would exceed 10% of the aggregate liabilities of the U.S. financial sector (including the U.S. liabilities of foreign financial companies). In extraordinary cases, the FSOC, in conjunction with the Federal Reserve, could order the break-up of financial firms that are deemed to present a grave threat to the financial stability of the United States.

OCC prior approval is required for PNC Bank to acquire another insured bank or savings association by merger or to acquire deposits or substantially all of the assets of such institutions. In deciding whether to approve such a transaction, the OCC is required to consider factors similar to those that must be considered by the Federal Reserve in connection with the acquisition of a bank or BHC. Approval of the OCC and the FDIC is required to merge a nonbank entity into PNC Bank. Our ability to grow through acquisitions or reorganize our operations could be limited by these approval requirements.

Based on the Federal Reserve's interpretation of the BHC Act, the Federal Reserve has indicated that it considers BlackRock to be a subsidiary of The PNC Financial Services Group, Inc. for purposes of the BHC Act due to PNC's current and historical ownership interest in, as well as other relationships with, BlackRock and, thus, subject to the supervision and regulation of the Federal Reserve.

FDIC Insurance and Related Matters. PNC Bank is insured by the FDIC and subject to deposit premium assessments. Regulatory matters could increase the cost of FDIC deposit insurance premiums to an insured bank as FDIC deposit insurance premiums are "risk based." Therefore, higher fee percentages would be charged to banks that have lower capital ratios or higher risk profiles. These risk profiles take into account, among other things, weaknesses that are found by the primary federal banking regulator through its examination and supervision of the bank and the bank's holdings of assets or liabilities classified as higher risk by the FDIC. A negative evaluation by the FDIC or a bank's primary federal banking regulator could increase the costs to a bank and result in an aggregate cost of deposit funds higher than that of competing banks in a lower risk category.

Federal banking laws and regulations also apply a variety of requirements or restrictions on insured depository institutions with respect to brokered deposits. For instance, only a "well capitalized" insured depository institution may accept brokered deposits without prior regulatory approval. In addition, brokered deposits are generally subject to higher outflow assumptions than other types of deposits for purposes of the LCR.

Resolution and Recovery Planning. BHCs that have $100 billion or more in assets, such as PNC, are required to periodically submit to the Federal Reserve and the FDIC a resolution plan that includes, among other things, an analysis of how the company could be resolved in a rapid and orderly fashion if the company were to fail or experience material financial distress. The Federal Reserve and the FDIC may jointly impose restrictions on a covered BHC, including additional capital requirements or limitations on growth, if the agencies jointly determine that the company's plan is not credible or would not facilitate a rapid and orderly resolution of the company under the U.S. Bankruptcy Code (or other applicable resolution framework), and additionally could require the company to divest assets or take other actions if the company did not submit an acceptable resolution plan within two years after any such restrictions were imposed. The FDIC also requires large insured depository institutions, including PNC Bank, to periodically submit a resolution plan to the FDIC that includes, among other things, an analysis of how the institution could be resolved under the FDI Act in a manner that protects depositors and limits losses or costs to creditors of the bank in accordance with the FDI Act. PNC and PNC Bank are required to provide the Federal Reserve and FDIC a public summary of their resolution plans, which the agencies then make available to the public. Depending on how the agencies conduct their review of the resolution plans submitted by PNC and PNC Bank, these requirements could affect the ways in which PNC structures and conducts its business and result in higher compliance and operating costs.

PNC Bank also is subject to OCC guidelines under Section 39 of the FDI Act that establish standards for recovery planning. These guidelines require a covered bank to develop and maintain a recovery plan that, among other things, identifies a range of options that could be undertaken by the covered bank to restore its financial strength and viability should identified triggering events occur. The recovery plan guidelines are enforceable in the same manner as the other guidelines the OCC has established under Section 39 of the FDI Act.

CFPB Regulation and Supervision. The CFPB examines PNC and PNC Bank for compliance with a broad range of federal consumer financial laws and regulations, including the laws and regulations that relate to deposit products, credit card, mortgage, automobile, student and other consumer loans, and other consumer financial products and services that we offer. The consumer financial protection laws that are subject to the CFPB's supervision and enforcement powers include, among others, the Truth in Lending Act, Truth in Savings Act, Home Mortgage Disclosure Act, Fair Credit Reporting Act, Electronic Funds Transfer Act, Real Estate Settlement Procedures Act, Fair Debt Collections Practices Act, Equal Credit Opportunity Act and Fair Housing Act. The CFPB also has authority to take enforcement actions to prevent and remedy acts and practices relating to consumer financial products and services that it deems to be unfair, deceptive or abusive, and to impose new disclosure requirements for any consumer financial product or service.

The CFPB may issue regulations that impact products and services offered by PNC or PNC Bank. The regulations could reduce the fees that we receive, alter the way we provide our products and services, or expose us to greater risk of private litigation or regulatory enforcement action. The CFPB may engage in rulemakings affecting prepaid cards, data on small business lending, the Home Mortgage Disclosure Act, and payday, vehicle title, and certain high-cost installment loans.

Securities and Derivatives Regulation
Our registered broker-dealer and investment adviser subsidiaries are subject to the Securities Exchange Act of 1934, and the Investment Advisers Act of 1940, respectively, and related rules and regulations promulgated by the SEC. Our investment adviser subsidiary that serves as adviser to registered investment companies is also subject to the requirements of the Investment Company Act of 1940 and related regulations. The Financial Industry Regulatory Authority (FINRA) is the primary self-regulatory organization for our registered broker-dealer subsidiaries. Our

broker-dealer and investment adviser subsidiaries also are subject to additional regulation by states or local jurisdictions.

The SEC and FINRA have active enforcement functions that oversee broker-dealers and investment advisers and can bring actions that result in fines, restitution, a limitation on permitted activities, disqualification to continue to conduct certain activities and an inability to rely on certain favorable exemptions. Certain types of infractions and violations also can affect our ability to expeditiously issue new securities into the capital markets. In addition, certain changes in the activities of a broker-dealer require approval from FINRA, and FINRA takes into account a variety of considerations in acting upon applications for such approval, including internal controls, capital levels, management experience and quality, prior enforcement and disciplinary history and supervisory concerns.

In 2018, the SEC issued a package of regulatory proposals that, if finalized, would impact the provision of investment advice to retail customers by registered broker-dealers and investment advisers. Proposed Regulation Best Interest would create a new standard of conduct for broker-dealers making investment recommendations to retail customers. The proposed form would create a new set of disclosure obligations for broker-dealers and investment advisers dealing with retail customers. The SEC has indicated it expects to adopt final rules later in 2019. If adopted, these rules would primarily impact PNC’s retail broker-dealer/investment adviser, PNC Investments LLC.

Dodd-Frank imposed comprehensive and significant regulations on the activities of financial institutions that are active in the U.S. over-the-counter derivatives and foreign exchange markets. These regulations were intended to (i) address systemic risk issues, (ii) bring greater transparency to the derivatives markets, (iii) provide enhanced disclosures and protections to customers and (iv) promote market integrity. Among other things, Dodd-Frank: (i) requires the registration of both “swap dealers” and “major swap participants” with one or both of the CFTC (in the case of non security-based swaps) and the SEC (in the case of security-based swaps); (ii) requires that most standardized swaps be centrally cleared through a regulated clearing house and traded on a centralized exchange or swap execution facility; (iii) subjects swap dealers and major swap participants to capital and margin requirements in excess of historical practice; (iv) subjects swap dealers and major swap participants to comprehensive new recordkeeping and real-time public reporting requirements; (v) subjects swap dealers and major swap participants to new business conduct requirements, including the provision of daily marks to counterparties and disclosing to counterparties (pre-execution) the material risks, material incentives, and any conflicts of interest associated with their swap; (vi) imposes special duties on swap dealers and major swap participants when transacting a swap with a “special entity” (e.g., governmental agency (federal, state or local) or political subdivision thereof, pension plan or endowment); and (vii) imposes margin requirements on swaps that are not centrally cleared through a regulated clearing house.

As a registered swap dealer with the CFTC, PNC Bank's derivatives and foreign exchange businesses are subject to the regulations and requirements imposed on registered swap dealers, and the CFTC (and for certain delegated responsibilities, the National Futures Association) has a meaningful supervisory role with respect to PNC Bank’s derivatives and foreign exchange businesses. Because of the limited volume of our security-based swap activities, PNC Bank has not registered with the SEC as a security-based swap dealer. The regulations and requirements applicable to swap dealers have and will continue to impose compliance burdens on PNC Bank and introduces additional legal risks (including as a result of applicable anti-fraud and anti-manipulation provisions and private rights of action). In addition, failure to comply with the "pay-to-play" regulations that govern our swap and municipal securities businesses could result in limitations on PNC Bank's ability to conduct swap and municipal securities business with state or local governments and their authorities.

BlackRock has subsidiaries in securities and related businesses subject to SEC, other governmental agencies, state, local and FINRA regulation, and a federally chartered nondepository trust company subsidiary subject to supervision and regulation by the OCC. BlackRock describes its regulation by these agencies and otherwise in its filings with the SEC.

Regulations of Other Agencies

In addition to regulations issued by the federal banking, securities and derivatives regulators, we also are subject to regulations issued by other federal agencies with respect to certain financial products and services we offer. For example, certain of our fiduciary, brokerage and investment management activities are subject to regulations issued by the Department of Labor (DOL) under the Employee Retirement Income Security Act of 1974 (ERISA), as amended, and related provisions of the Internal Revenue Code and certain of our student lending and servicing activities are subject to regulation by the Department of Education. Certain provisions of final rules issued by the DOL expanding the definition of “investment advice” for retirement accounts and certain other accounts took effect in June 2017. The rules increased the scope of activities that give rise to fiduciary status under ERISA and the Internal Revenue Code and primarily apply to aspects of our Retail Banking and Asset Management Group segments. Certain requirements of the amended rules that had been scheduled to take effect on January 1, 2018 have been delayed until July 1, 2019 and the DOL is expected to propose amendments to the rules during the delay.

Competition

We are subject to intense competition from other regulated banking organizations, as well as various other types of financial institutions and non-bank entities that can offer a number of similar products and services without being subject to bank regulatory supervision and restrictions.

PNC Bank competes for deposits and/or loans with:

- Other commercial banks,
- Savings banks,
- Credit unions,
- Consumer finance companies,
- Leasing companies,
- Other non-bank lenders,
- Financial technology companies,
- Treasury management service companies,
- Insurance companies, and
- Issuers of commercial paper and other securities, including mutual funds.

In providing asset management services, our businesses compete with:
- Investment management firms,
- Large banks and other financial institutions,
- Brokerage firms,
- Financial technology companies,
- Mutual fund complexes, and
- Insurance companies.

Our various non-bank businesses engaged in investment banking and alternative investment activities compete with:
- Commercial banks,
- Investment banking firms,
- Collateralized loan obligation managers,
- Hedge funds,
- Mutual fund complexes,
- Merchant banks,
- Insurance companies,
- Private equity firms, and
- Other investment vehicles.

Loan pricing, structure and credit standards are extremely important in the current environment as we seek to achieve appropriate risk-adjusted returns. Deposit-taking activities are also subject to pricing pressures and to customer migration as a result of intense competition for deposits and investments. Competitors may seek to compete with us through traditional channels such as physical locations or through digital channels such as internet or mobile. We include here by reference the additional information regarding competition and factors affecting our competitive position included in the Item 1A Risk Factors of this Report.

Employees

Employees totaled 53,063 at December 31, 2018. This total included 50,928 full-time and 2,135 part-time employees, of which 29,180 full-time and 1,974 part-time employees were employed by our Retail Banking business.

SEC Reports and Corporate Governance Information

We are subject to the informational requirements of the Securities Exchange Act of 1934 (Exchange Act) and, in accordance with the Exchange Act, we file annual, quarterly and current reports, proxy statements, and other information with the SEC. Our SEC File Number is 001-09718.

The SEC maintains an internet website at www.sec.gov that contains reports, including exhibits, proxy and information statements, and other information about issuers, like us, who file electronically with the SEC. You can also inspect reports, proxy statements and other information about us at the offices of the New York Stock Exchange, 20 Broad Street, New York, New York 10005.

We make 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 with or furnished to the SEC pursuant to Section 13(a) or 15(d) of the Exchange Act available free of charge on our internet website as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC. Our corporate internet address is www.pnc.com and you can find this information at www.pnc.com/secfilings. Shareholders and bondholders may obtain copies of these filings without charge by contacting Shareholder Services at 800-982-7652 or via the online contact form at www.computershare.com/contactus for copies without exhibits, or via e-mail to investor.relations@pnc.com for copies of exhibits, including financial statement and schedule exhibits where applicable. The interactive data file (XBRL) exhibit is only available electronically.

Information about our Board of Directors and its committees and corporate governance, including our PNC Code of Business Conduct and Ethics (as amended from time to time), is available on our corporate website at www.pnc.com/corporategovernance. In addition, any future waivers from a provision of the PNC Code of Business Conduct and Ethics covering any of our directors or executive officers (including our principal executive officer, principal financial officer, and principal accounting officer or controller) will be posted at this internet address.

Shareholders who would like to request printed copies of the PNC Code of Business Conduct and Ethics or our Corporate Governance Guidelines or the charters of our Board's Audit, Nominating and Governance, Personnel and Compensation, or Risk Committees (all of which are posted on our corporate website at www.pnc.com/corporategovernance) may do so by sending their requests to our Corporate Secretary at corporate headquarters at The Tower at PNC Plaza, 300 Fifth Avenue, Pittsburgh, Pennsylvania 15222-2401. Copies will be provided without charge to shareholders.

Our common stock is listed on the New York Stock Exchange (NYSE) under the symbol “PNC.”

Internet Information
The PNC Financial Services Group, Inc.’s financial reports and information about its products and services are available on the internet at www.pnc.com. We provide information for investors on our corporate website under “About Us – Investor Relations.” We use our Twitter account, @pncnews, as an additional way of disseminating to the public information that may be relevant to investors.

We generally post the following under “About Us – Investor Relations” shortly before or promptly following its first use or release: financially-related press releases, including earnings releases and supplemental financial information, various SEC filings, including annual, quarterly and current reports and proxy statements, presentation materials associated with earnings and other investor conference calls or events, and access to live and recorded audio from earnings and other investor conference calls or events. In some cases, we may post the presentation materials for other investor conference calls or events several days prior to the call or event. For earnings and other conference calls or events, we generally include in our posted materials a cautionary statement regarding forward-looking and non-GAAP financial information, and we provide GAAP reconciliations when we include non-GAAP financial information. Such GAAP reconciliations may be in materials for the applicable presentation, in materials for prior presentations or in our annual, quarterly or current reports.

When warranted, we will also use our website to expedite public access to time-critical information regarding PNC instead of using a press release or a filing with the SEC for first disclosure of the information. In some circumstances, the information may be relevant to investors but directed at customers, in which case it may be accessed directly through the home page rather than "About Us - Investor Relations."

We are required to provide additional public disclosure regarding estimated income, losses and pro forma regulatory capital ratios under supervisory and PNC-developed hypothetical severely adverse economic scenarios, as well as information concerning our capital stress testing processes, pursuant to the stress testing regulations adopted by the Federal Reserve and the OCC. We are also required to make certain additional regulatory capital-related public disclosures about our capital structure, risk exposures, risk assessment processes, risk-weighted assets and overall capital adequacy, including market risk-related disclosures, under the regulatory capital rules adopted by the Federal banking agencies. Under these regulations, we may satisfy these requirements through postings on our website, and we have done so and expect to continue to do so without also providing disclosure of this information through filings with the SEC.

Other information posted on our corporate website that may not be available in our filings with the SEC includes information relating to our corporate governance and annual communications from our chairman to shareholders.

Where we have included internet addresses in this Report, such as our internet address and the internet address of the SEC, we have included those internet addresses as inactive textual references only. Except as specifically incorporated by reference into this Report, information on those websites is not part hereof.

ITEM 1A – RISK FACTORS
We are subject to a number of risks potentially impacting our business, financial condition, results of operations and cash flows. As a financial services organization, certain elements of risk are inherent in what we do and the business decisions we make. Thus, we encounter risk as part of the normal course of our business, and we design risk management processes to help manage these risks.

Our success is dependent on our ability to identify, understand and manage the risks presented by our business activities so that we can appropriately balance revenue generation and profitability. We discuss our principal risk management oversight and processes and, in appropriate places, related historical performance and other metrics in the Risk Management section included in Item 7 of this Report.

The following are the key risk factors that affect us. Any one or more of these risk factors could have a material adverse impact on our business, financial condition, results of operations or cash flows. In addition, these risks present other possible adverse consequences, including those described below. These risk factors and other risks we face are also discussed further in other sections of this Report.

Our business and financial performance are vulnerable to the impact of adverse economic conditions.

As a financial services company, our business and overall financial performance are affected to a significant extent by economic conditions. We are currently in a prolonged economic expansion. This is not likely to continue forever, and at some point economic conditions are likely to turn recessionary.

Adverse economic conditions generally result in reduced business activity, which may decrease the demand for our products and services. The ability of borrowers to repay loans is often weakened as a result of economic downturns. Such economic conditions also may lead to turmoil and volatility in financial markets. Any of these effects would likely have an adverse impact on financial institutions such as PNC, with the significance of the impact generally depending on the severity of the adverse economic conditions.

Even when economic conditions are relatively good or stable, specific economic factors can negatively affect the business and performance of financial institutions. This can be especially true when the factors relate to particular industries or geographical regions. For example, shifting consumer behavior with respect to retail purchases being made over the internet rather than in physical stores has negatively impacted performance by some retailers. This likely decreases demand for financial services in that sector, possibly harming the creditworthiness of some shopping malls and retail companies. As another example, trade wars leading to increased tariffs likely adversely affect companies more dependent on imports or exports. Increased tariffs may also result in increased prices for some products or services, leading to decreases in demand. Here, as well, affected companies may experience lower levels of business and possible declining creditworthiness. Recently increased tariffs on imports into, as well as exports out of, the U.S. could have some or all of these effects on the U.S. economy and on our business.

Given the geographic scope of our business and operations, we are most exposed to issues within the U.S. economy and financial markets. Within the U.S., we are most exposed to issues within markets located in the Mid-Atlantic, Midwest and Southeast. This will continue to be the case for at least some period of time, even as we expand the national reach of some of our businesses.

Our international business activities continue to be a relatively small part of our overall business. As a result, the direct impact on our business and performance from international economic conditions is not likely to be significant. We are nonetheless susceptible to the risk that international economic conditions could affect our business and financial performance. Primarily, this risk results from the possibility that poor economic conditions or financial market disruptions affecting other major economies around the world would also affect the U.S. One example is the United Kingdom’s impending exit from the European Union. This has led to uncertainty regarding the impact on the economy and capital markets of the United Kingdom and Europe more generally, including the risk that other countries might seek to exit the European Union in the future. The extent to which these uncertainties will affect the U.S. economy and capital markets is unclear. The more severe the impact, the more likely it would have adverse effects on PNC and its business.

Government legislation, regulation and policy frequently impacts the economy in ways that could have an adverse effect on our business and financial performance.

Changes in law or governmental policy affecting the economy, business activity, or personal spending, investing or saving activities may cause consumers and businesses to alter behavior in ways that impact demand for our products and services. Even to the extent that demand is not affected, such changes may also alter the profitability of the transactions in which we engage. PNC may also adjust the types of transactions we seek to pursue under those circumstances. Uncertainty regarding future law or policy may have similar impacts.

A recent example of such a change was the 2017 Tax Cuts and Jobs Act, representing the most significant change in U.S. federal tax law in decades. It has had and is likely to continue to have an impact on corporate and consumer behavior, including decisions made by PNC in response to the changes in law. Changes in PNC’s behavior or that of our customers as a result of future substantial revisions to U.S. federal tax law could negatively impact us.

Concern regarding the ability of Congress and the President collectively to reach agreement on federal budgetary matters (including the debt ceiling), or prolonged stalemates leading to total or partial governmental shutdowns, such as the partial shutdown from December 2018 until January 2019, also can have adverse economic consequences and create the risk of economic instability or market volatility, with potential adverse consequences to our business and financial performance. The divided control of the U.S. government following the 2018 elections may make this type of event more likely going forward.

The policies of the Federal Reserve and other governmental agencies have a significant impact on interest rates and overall financial market performance. These in turn drive much of our business and financial performance.

The monetary policies of the Federal Reserve have a significant impact on interest rates and overall financial market performance. These policies can thus affect the activities and results of operations of financial companies such as PNC. An important function of the Federal Reserve is to monitor the national supply of bank credit and set certain interest rates. The actions of the Federal Reserve influence the rates of interest that we charge on loans and that we pay on borrowings and interest-bearing deposits. Rates of interest can also affect the value of our on-balance sheet and off-balance sheet financial instruments. As a general matter, increasing rates tend to decrease the value of fixed rate financial instruments. We cannot predict the nature or timing of future changes in monetary policies or the precise effects that they may have on our activities and financial results.

Starting in late 2015, the Federal Reserve has regularly increased its benchmark interest rate from the near-zero level that had prevailed following the financial crisis that began in 2007. We expect this to continue at least into 2019. The amount and timing of future increases will likely depend on economic conditions, including rates of inflation and unemployment.

After an extended period during which the Federal Reserve increased its balance sheet substantially above historical levels through the purchase of debt securities, the Federal Reserve has started reducing its balance sheet from these elevated levels. Its reduction in holdings of longer term Treasury securities and mortgage-backed securities would tend to push long-term interest rates higher.

It is unclear what other impacts the Federal Reserve's actions will have on the economy or on the markets and values of financial assets, including assets of the types that we hold, purchase and sell.

In addition, monetary policy actions by governmental authorities in the European Union or other countries could have an impact on global interest rates, which could affect rates in the U.S. as well as rates on instruments denominated in currencies other than the U.S. dollar, any of which could have one or more of the potential effects on us described above.

As a regulated financial services firm, we are subject to numerous governmental regulations and comprehensive oversight by a variety of regulatory agencies and enforcement authorities. These regulations and the manner in which they are implemented can have a significant impact on our businesses and operations.

The PNC Financial Services Group, Inc. is a bank holding company (BHC) and a financial holding company and is subject to numerous laws and regulations involving both its business and organization. In addition, our businesses are subject to examination and supervision by multiple banking, consumer protection, securities and derivatives regulatory bodies.

These laws, regulations and supervisory activities are intended to promote the safety and soundness of financial institutions, financial market stability, the transparency and liquidity of financial markets, and consumer and investor protection. We are also subject to oversight by criminal and civil enforcement authorities. Over time, the scope of the laws and regulations affecting our businesses, as well as the number of requirements or limitations imposed by legislative or regulatory actions, has increased. This trend is likely to continue, at least over the long term. Legislative or regulatory actions can result in increased compliance costs, reduced business opportunities, or new requirements and limitations on how we conduct our business.

Applicable laws and regulations impose capital adequacy requirements and restrict our ability to repurchase stock or to receive dividends from subsidiaries that operate in the banking and securities businesses. PNC’s ability to service its obligations and pay dividends to shareholders is largely dependent on the receipt of dividends and advances from its subsidiaries, primarily PNC Bank. The Federal Reserve requires a BHC to act as a source of financial and managerial strength for its subsidiary banks. The Federal Reserve could require PNC to commit resources to PNC Bank when doing so is not otherwise in the interests of PNC or its shareholders or creditors.

Applicable laws and regulations also restrict permissible activities and investments and require compliance with provisions designed to protect loan, deposit, brokerage, fiduciary, mutual fund and other customers, and for the protection of customer information, among other things. We also are subject to laws and regulations designed to combat money laundering, terrorist financing, and transactions with persons, companies or foreign governments designated by U.S. authorities.

We are subject to supervision and examination by numerous governmental bodies. The results of these supervisory or examination activities could result in limitations on our ability to engage in new activities or expand geographically. These activities also could result in significant fines, penalties, or required corrective actions, some of which could be expensive and difficult to implement. As we expand our product and service offerings into additional states or countries, there could be an increase in state or foreign regulation affecting our operations. Different approaches to regulation by different jurisdictions could increase our compliance costs or risks of non-compliance.

A failure to comply, or to have adequate policies and procedures designed to comply, with regulatory requirements and expectations could expose us to damages, fines and regulatory penalties and other regulatory or enforcement actions or consequences, such as limitations on activities otherwise permissible for us or additional requirements for engaging in new activities, and could also injure our reputation with customers and others with whom we do business.

New regulatory requirements or other initiatives may well be pursued and implemented in the future. Such future regulatory requirements or initiatives could further increase our compliance costs and the risks associated with non-compliance and could affect our ability to pursue or take full advantage of some desirable business opportunities.

See Supervision and Regulation in Item 1 of this Report for more information concerning the regulation of PNC and recent initiatives to reform financial institution regulation, including some of the matters discussed in this Risk Factor. Note 18 Regulatory Matters in the Notes To Consolidated Financial Statements in Item 8 of this Report also discusses some of the regulation applicable to us.

We are subject to regulatory capital and liquidity standards that affect our business, operations and ability to pay dividends, or otherwise return capital, to shareholders. These regulatory capital and liquidity standards are subject to modification. Changes in these requirements could require us to maintain higher levels of capital and liquidity than currently required.

PNC and PNC Bank are subject to regulatory capital and liquidity requirements established by the Federal Reserve and the OCC, respectively. These regulatory capital and liquidity requirements are typically developed at an international level by the Basel Committee on Banking Supervision (Basel Committee) and then applied, with adjustments, in each country by the appropriate domestic regulatory bodies. Domestic regulatory agencies have the ability to apply stricter capital and liquidity standards than those developed by Basel Committee. In several instances, the U.S. banking agencies have done so with respect to U.S. banking organizations.

Requirements to maintain specified levels of capital and liquidity, and regulatory expectations as to the quality of our capital and liquidity, impact our business activities and may prevent us from taking advantage of opportunities in the best interest of shareholders or force us to take actions contrary to their interests. For example, PNC may be limited in its ability to pay or increase dividends or otherwise return capital to shareholders. In addition, these requirements may impact the amount and type of loans we make. We may be constrained in our ability to expand, either organically or through acquisitions. These requirements may force us to sell or refrain from acquiring assets where the capital requirements appear inconsistent with the assets' underlying risks. In addition, liquidity standards require us to maintain holdings of highly liquid short-term investments, thereby reducing our ability to invest in longer-term or less liquid assets, even if more desirable from a balance sheet or interest rate risk management perspective.

Regulatory capital and liquidity requirements are subject to regular review and revision by the Basel Committee and the U.S. banking agencies. Future changes to the capital and liquidity rules that require PNC or PNC Bank to maintain more or higher quality capital, or greater liquidity, could increase some of the potential adverse effects described above. Until the scope and terms of pending or future rulemakings relating to capital, liquidity or other prudential standards are known, the extent to which such rules may apply to us and the potential impact of such rules on us will remain uncertain.

In 2018, the U.S. banking agencies proposed several changes to the capital and liquidity frameworks, including the Basel III capital standards and Liquidity Coverage Ratio (LCR) requirements, applicable to PNC and PNC Bank. If adopted, these proposed changes would provide meaningful benefits to us, but the core elements of the current regulatory framework would remain in place. Until the proposed changes are finalized, the scope of any changes, the extent to which they would apply to us and the potential impact of such changes on us will remain uncertain. The proposed changes are summarized in the Supervision and Regulation section included in Item 1 of this Report.

The Basel Committee continues to engage in capital- and liquidity-related initiatives. For example, the Basel Committee in 2017 finalized additional, significant changes to the international capital framework for banking organizations. The changes would impact the market risk capital requirements for trading positions and the standardized risk weighting approach for credit risk and the measurement of operational risk. In addition, among other things, the changes would establish a standardized approach floor for capital ratios calculated by banking organizations that use the advanced approaches for the risk weighting of assets. Moreover, the Basel Committee continues to consider other changes to the international regulatory capital framework to enhance the transparency and consistency of capital requirements among banks and jurisdictions, including, among others, the treatment of securitization positions. As it is unclear, at this time, whether or how these initiatives will be implemented in the U.S., we are unable to estimate what potential impact such initiatives may have on us.

The liquidity standards applicable to large U.S. banking organizations also are expected to be supplemented in the coming years. For example, in May 2016, the U.S. banking agencies proposed rules to implement the Net Stable Funding Ratio (NSFR), which is designed to ensure that banking organizations maintain a stable, long-term funding profile in relation to their asset composition and off-balance sheet activities. The U.S. rules have not yet been finalized and recent proposals would adjust the scope and effect of the originally-proposed U.S. rules. Thus, the potential impact of the NSFR on us remains unclear.

The regulatory capital and liquidity frameworks, as well as certain other prudential requirements and standards, that are applicable to PNC are discussed in the Supervision and Regulation section included in Item 1 of this Report and the Liquidity and Capital Management portion of the Risk Management section of Item 7 of this Report.

The planned discontinuance of the requirement that banks submit rates for the calculation of LIBOR presents risks to the financial instruments originated or held by PNC that use LIBOR as a reference rate.

LIBOR is used as a reference rate for many of our transactions, which means it is the base on which relevant interest rates are determined. Transactions include those in which we lend and borrow money, issue, purchase and sell securities, and enter into derivatives to manage our or our customers' risk. LIBOR is the subject of recent national and international regulatory guidance and proposals for reform. The United Kingdom Financial Conduct Authority, which regulates the process for setting LIBOR, announced in July 2017 that it intends to stop persuading or compelling banks to submit rates for the calculation of LIBOR to the administrator of LIBOR after 2021.

There are ongoing efforts to establish an alternative reference rate. The Secured Overnight Financing Rate (or SOFR) is considered the most likely alternative reference rate suitable for replacing LIBOR, but issues remain with respect to its implementation. As a result, the scope of its ultimate acceptance and the impact on rates, pricing and the ability to manage risk, including through derivatives, remain uncertain. No other alternative rate is currently under wide consideration. If SOFR or another rate does not achieve wide acceptance as the alternative to LIBOR, there likely will be disruption to all of the markets relying on the availability of a broadly accepted reference rate. Even if SOFR or another reference rate ultimately replaces LIBOR, risks will remain for us with respect to outstanding loans, derivatives or other instruments using LIBOR. Those risks arise in connection with transitioning those instruments to a new reference rate and the corresponding value transfer that may occur in connection with that transition. That is because a new reference rate likely will not exactly mimic LIBOR. As a result, for example, over the life of a transaction that transitions from LIBOR to a new reference rate, our monetary obligations to our counterparties and our yield from transactions with clients may change, potentially adversely to us. For some instruments, the method of transitioning to a new reference rate may be challenging, especially if parties to an instrument cannot agree as to how to effect that transition. If a contract is not transitioned to a new reference rate and LIBOR ceases to exist, the impact on our obligations is likely to vary by asset class and contract. In addition, prior to LIBOR cessation, instruments that continue to refer to LIBOR may be impacted if there is a change in the availability or calculation of LIBOR. Risks related to transitioning instruments to a new reference rate or to how LIBOR is calculated and its availability include impacts on the yield on loans or securities held by us, amounts paid on securities we have issued, or amounts received and paid on derivative instruments we have entered into. The value of loans, securities, or derivative instruments tied to LIBOR and the trading market for LIBOR-based securities could also be impacted upon its discontinuance or if it is limited.

While we expect LIBOR to continue to be available in substantially its current form until the end of 2021 or shortly before that, it is possible that LIBOR quotes will become unavailable prior to that point. This could result, for example, if sufficient banks decline to make submissions to the LIBOR administrator. In that case, the risks associated with the transition to an alternative reference rate will be accelerated and magnified. These risks may also be increased due to the shorter time for preparing for the transition.

We rely on technology to conduct our business and could suffer a material adverse impact from interruptions in the effective operation of those systems and we are vulnerable to the impact of attempts to breach data security involving our or our customers' information.

Generally. As a large financial services company, we handle a substantial volume of customer and other financial transactions. As a result, we rely heavily on information systems to conduct our business and to process, record and monitor our transactions and those of our customers. Over time, we have seen more customer usage of technological solutions for financial needs as well as higher expectations of customers and regulators regarding effective and safe systems operation. We expect these trends to continue for the foreseeable future. The need to ensure proper functioning and resiliency of these systems has become more challenging, and the costs involved in that effort continue to be high.

The risks resulting from use of these systems result from a variety of factors, both internal and external. We are vulnerable to the impact of failures of our systems to operate as needed or intended. Such failures could include those resulting from human error, unexpected transaction volumes, or overall design or performance issues. In addition, our ability to use our technology effectively could be impacted due to bad weather, disasters, terrorism and the like affecting our systems specifically or necessary infrastructure more broadly. In some cases, the risk results from the potential for bad acts on the part of hackers, criminals, foreign governments or their agents, rogue employees, contractors and others. These risks are further described below.

The consequences of failures to operate our systems properly can include disruptions to our ability to use our accounting, deposit, loan and other systems. Such events could also cause errors in transactions or impair system functionality with customers, vendors or other parties.

Throughout our businesses, we rely on other companies and on the information systems they maintain. We do so both for the provision of products and services directly to us and for assistance in providing products and services to our customers. Others may provide the infrastructure that supports, for example, communications, payment, clearing and settlement systems, or information processing and storage. These companies range from those providing highly sophisticated information processing to those that provide fundamental services, such as electric power and telecommunications. These other companies are generally subject to many of the same risks we face with respect to our systems. To the extent we rely on these other companies, we could be adversely affected if they are impacted by system failures, cyber attacks or employee misconduct.

The occurrence of any failure, interruption or security breach of any of our information or communications systems, or the systems of other companies on which we rely, could result in a wide variety of adverse consequences to us. This risk is greater if the issue is widespread or results in financial losses to our customers. Possible adverse consequences include damage to our reputation or a loss of customer business. We also could face litigation or additional regulatory scrutiny. This in turn could lead to liability or other sanctions, including fines and penalties or reimbursement of adversely affected customers. Even if we do not suffer any material adverse consequences as a result of events affecting us directly, successful attacks or systems failures at other financial institutions could lead to a general loss of customer confidence in financial institutions, including us. Also, system problems, including those resulting from third party attacks, whether at PNC or at our competitors, would likely broadly increase legislative, regulatory and customer concerns regarding the functioning, safety and security of such systems. In that case, we would expect to incur even higher levels of costs with respect to prevention and mitigation of these risks.

Risk of cyber attacks. We are faced with ongoing efforts by others to breach data security at financial institutions or with respect to financial transactions. Some of these involve efforts to enter our systems directly by going through or around our security protections. Others involve the use of social engineering schemes to gain access to confidential information from our employees or customers. Most corporate and commercial transactions are now handled electronically, and our retail customers increasingly use online access and mobile devices to bank with us. The ability to conduct business with us in this manner depends on the transmission and storage of confidential information in electronic form. As a result, efforts by bad actors to engage in various types of cyber attacks pose a serious risk to our business and reputation. The same risks are presented by attacks potentially affecting information held by third parties on our behalf.

Bad actors may attempt to harm us by gaining access to confidential or proprietary company and customer information, often with the intent of stealing from or defrauding us or our customers. In some cases, they seek to disrupt our ability to conduct our business, including by destroying information maintained by us. The protections we have in place to prevent this harm may be insufficient to do so. If our measures to prevent unauthorized access or other malicious acts are inadequate, the ability of bad actors to cause harm would be increased. Ultimately, actions by bad actors are to some extent beyond our ability to prevent. Our ability to protect confidential or proprietary information is even more limited with respect to information held by third parties.

Our customers often use their own devices, such as computers, smartphones and tablets, to do business with us and may provide their PNC customer information (including passwords) to a third party in connection with obtaining services from the third party. Although we take steps to provide safety and security for our customers' transactions with us and their customer information to the extent they are utilizing their own devices or providing third parties access to their accounts, our ability to assure such safety and security is necessarily limited.

As our customers regularly use PNC-issued credit and debit cards to pay for transactions with retailers and other businesses, there is also the risk of data security breaches at those other businesses covering PNC account information. When our customers use PNC-issued cards to make purchases from those businesses, card account information may be provided to the business. If the business's systems that process or store card account information are subject to a data security breach, holders of our cards who have made purchases from that business may experience fraud on their card accounts. We may suffer losses associated with reimbursing our customers for such fraudulent transactions on customers' card accounts, as well as for other costs related to data security compromise events, such as replacing cards associated with compromised card accounts. In addition, we provide card transaction processing services to some merchant customers under agreements we have with payment networks such as Visa and MasterCard. Under these agreements, we may be responsible for certain losses and penalties if one of our merchant customers suffers a data security breach.

Over the last few years, several large companies disclosed that they had suffered substantial data security breaches compromising millions of user accounts and credentials. To date, our losses and costs related to these breaches have not been material, but other similar events in the future could be more significant to us. Moreover, to the extent more consumer confidential information becomes available to bad actors through the cumulative effect of data breaches at companies generally, bad actors may find it easier to use such information to gain access to our customer accounts.

There have been other recent publicly announced cyber attacks that were not focused on gaining access to credit card or user credential information but instead sought access to a range of other types of confidential information including internal emails and other forms of customer financial information. Ransomware attacks have sought to deny access to data and possibly shut down systems and devices maintained by target companies. In a ransomware attack, system data is encrypted or access is otherwise denied, accompanied by a demand for ransom to restore access to the data.

A number of companies have fallen victim to business email compromise scams (BEC) scams in recent years. BEC scams involve using social engineering to cause employees to wire funds to the perpetrators in the mistaken belief that the requests were made by a company executive or established vendor. While we have not experienced such losses to date, some of our commercial customers have been victimized. Attacks on our customers may put these relationships at risk, particularly if customers' ability to continue operations is impaired due to the losses suffered.

Other attacks in recent years have included distributed denial of service (DDoS) attacks, in which individuals or organizations flood commercial websites with extraordinarily high volumes of traffic with the goal of disrupting the ability of commercial enterprises to process transactions and possibly making their websites unavailable to customers for extended periods of time. We (as well as other financial services companies) have been subject to such attacks.

To date, none of these types of attacks have had a material financial impact on us, but attacks on others demonstrate the risks posed by new and evolving types of cyber attacks. We could suffer material financial and reputational losses in the future from any of these or other types of attacks.

Methods used by others to attack information systems change frequently (with generally increasing sophistication), often are not recognized until launched against a target, may be supported by foreign governments or other well-financed entities, and may originate from less regulated and remote areas around the world. As a result, we may be unable to implement adequate preventive measures to address these methods in advance of attacks.

In addition to threats from people external to us, insider threats represent a significant risk to us. Insiders, including those having legitimate access to our systems and the information contained in them, have the easiest opportunity to make inappropriate use of the systems and information. Addressing that risk requires understanding not only how to protect us from unauthorized use and disclosure of data, but also how to engage behavioral analytics and other tools to identify potential internal threats before any damage is done.

Risks associated with inadequate planning and mitigation. We have policies, procedures and systems (including cyber security and business continuity programs) designed to prevent or limit the effect of possible failures, interruptions or breaches in security of information systems. We design our business continuity and other information and technology risk management programs to manage our capabilities to provide services in the case of an event resulting in material disruptions of business activities affecting our employees, facilities, technology or suppliers. We regularly seek to test the effectiveness of and enhance these policies, procedures and systems. Nonetheless, we cannot guarantee the effectiveness of our policies, procedures and systems to protect us in any particular future situation.

Our ability to mitigate the adverse consequences of such occurrences is in part dependent on the quality of our business continuity planning, our ability to understand threats to us from a holistic perspective, and our ability to anticipate the timing and nature of any such event that occurs. The adverse impact of natural and other disasters, terrorist activities, international hostilities and the like could be increased to the extent that there is a lack of preparedness on the part of national or regional governments, including emergency responders, or on the part of other organizations and businesses with which we deal, particularly those on which we depend, many of which we have little or no control over.

In recent years, we have devoted significant resources towards improving the reliability of our systems and their security against external and internal threats. Even with our proactive and defensive measures in place, there remains the risk that one or more adverse events might occur. If one does occur, we might not be able to remediate the event or its consequences timely or adequately, particularly to the extent that it represents a novel or unusual threat. To the extent that the risk relates to products or services provided by others, we seek to engage in due diligence and monitoring to limit the risk, but here, as well, we cannot eliminate this risk. Should an adverse event affecting another company's systems occur, we may not have financial protection from the other company sufficient to compensate us or otherwise protect us from the consequences.

New customer privacy initiatives will impose additional operational burdens on PNC, may limit our ability to pursue desirable business initiatives and increase the risks associated with any future use of customer data.

Recently there has been an increase in legislative and regulatory efforts to protect the privacy of consumer data. Significant examples include the General Data Protection Regulation of the European Union and the California Consumer Privacy Act. These initiatives, among other things, limit how companies can use customer data and impose obligations on companies in their management of such data. Financial services companies such as PNC necessarily gather, maintain and use a significant amount of customer data. Other jurisdictions may adopt similar requirements that impose different and potentially inconsistent compliance burdens. These initiatives, particularly to the extent multiple jurisdictions adopt inconsistent requirements, could increase compliance complexity and related costs, result in significant financial penalties for compliance failures, and limit our ability to develop new products or respond to technological changes. They also could heighten the reputational impact of perceived misuses of customer data, by us, our vendors, or others who gain unauthorized access to our customer data.

We depend on the effectiveness and integrity of employees, and the systems and controls for which they are responsible, to manage operational risks.

We are a large company that offers a wide variety of products and services to a broad and diverse group of customers. We rely on our employees to design, manage, and operate our systems and controls to assure that we properly enter into, record and manage processes, transactions and other relationships with customers, suppliers and other parties with whom we do business. In some cases, we rely on employees of third parties to perform these tasks. We also depend on employees and the systems and controls for which they are responsible to assure that we identify and mitigate the risks that are inherent in our relationships and activities. These concerns are increased when we change processes or procedures, introduce new products or services, or implement new technologies, as we may fail to adequately identify or manage operational risks resulting from such changes.

As a result of our necessary reliance on employees, whether ours or those of third parties, to perform these tasks and manage resulting risks, we are thus subject to human vulnerabilities. These range from innocent human error to misconduct or malfeasance, potentially leading to operational breakdowns or other failures. Our controls may not be adequate to prevent problems resulting from human involvement in our business, including risks associated with the design, operation and monitoring of automated systems.

Errors by our employees or others responsible for systems and controls on which we depend and any resulting failures of those systems and controls could result in significant harm to PNC. This could include customer remediation costs, regulatory fines or penalties, litigation or enforcement actions, or limitations on our business activities. We could also suffer damage to our reputation, impacting our ability to attract and retain customers and employees. The reputational impact is likely greater to the extent that the mistakes or failures are pervasive, long-standing or affect a significant number of customers, particularly retail consumers. It is possible that the damage to our reputation may be disproportionate to the actual harm suffered by our customers or may be severe even if we fully remediate any harm suffered by our customers.

We use automation to help reduce some risks of human error. Recently, we have started taking greater advantage of machine learning, artificial intelligence and robotic process automation tools. Nonetheless, we continue to rely on many manual processes to conduct our business and manage our risks. In addition, use of automation tools does not eliminate the need for effective design and monitoring of their operation to make sure they operate as intended. Enhanced use of automation may present its own risks. These tools are dependent on the quality of the data used by the tool to learn and enhance the process for which it is responsible. Not only bad or missing data but also anomalous data can adversely affect the functioning of such tools. In addition, use of automation tools may increase the possible impact of errors should they occur.

Our business and financial results are subject to risks associated with the creditworthiness of our customers and counterparties.

Credit risk is inherent in the financial services business. It results from, among other things, extending credit to customers, purchasing securities, and entering into financial derivative transactions and certain guarantee contracts. Credit risk is one of our most significant risks, particularly given the high percentage of our assets represented directly or indirectly by loans and securities and the importance of lending activity to our overall business. We manage credit risk by assessing and monitoring the creditworthiness of our customers and counterparties, by diversifying our loan portfolio and by investing primarily in high quality securities.

A borrower’s ability to repay a loan can be adversely affected by many factors. Individual borrowers can be affected, for example, by declines in income, job losses, health issues or family issues. Commercial borrowers can be affected, for example, by poor business performance or catastrophe losses. Weakness in the economy or in financial markets would typically adversely impact the ability of our borrowers to repay outstanding loans. Borrowers with higher leverage (that is, higher ratios of indebtedness to total capitalization or income) have an increased risk that they will be unable to repay loans, particularly when economic conditions worsen. We may also be exposed to credit risk if we fail to evaluate properly at origination the likely ability of a borrower to repay a loan. A failure to identify declining creditworthiness of a borrower at a time when remedial actions could reduce our exposure also increases credit risk. Any decrease in our borrowers' ability to repay loans would result in higher levels of nonperforming loans, net charge-offs, provision for credit losses and valuation adjustments on loans held for sale.

In addition to credit risk associated with our lending activities, we have credit risk arising from many other types of business relationships. Routine transactions give us credit exposure to brokers and dealers, commercial banks, investment banks, mutual and hedge funds, other institutional clients, as well as vendors and other non-financial entities.

In the ordinary course of business, we may have heightened credit exposure to a particular industry, region or financial market. As an example, loans secured by commercial and residential real estate typically represent a significant percentage of our overall credit portfolio. They also represent a portion of the assets underlying our investment securities. Although there are limitations on the extent of total exposure to an individual or business borrower, we may have outsized exposure to a particular borrower. Events adversely affecting specific customers or counterparties, industries, regions or financial markets, including a decline in their creditworthiness or a worsening overall risk profile, could materially adversely affect us. Thus, in the example above, a decline in commercial real estate activity or valuations in a region or more broadly could have a material impact on us. This could be the case even if the rest of our portfolio was performing well. Declining economic conditions also may impact commercial borrowers more than consumer borrowers, or vice versa. The last recession, for example, impacted consumers more than commercial borrowers, particularly in residential real estate. A future recession may have the opposite result. Thus, the relative balance and mix of our loan portfolio may affect the severity of the impact of a future recession.

Our credit risk may be exacerbated when collateral held by us to secure obligations to us cannot be realized upon or is liquidated at prices that are not sufficient to recover the full amount of the loan or derivative exposure due us.

We reserve for credit losses on our loan and lease portfolio, as well as for unfunded loan commitments and letters of credit, through our Allowances for loan and lease losses and unfunded loan commitments and letters of credit. Changes in the allowances are reflected in Net income through Provision for credit losses. An increase in credit risk would likely lead to an increase in Provision for credit losses with a resulting reduction in our Net income and would increase our allowances. As described in the Recently Issued Accounting Standards portion of the Critical Accounting Estimates and Judgments section in Item 7 of this Report, the implementation of pending changes in the accounting for credit losses is likely to result in an increase in total credit loss reserves at the adoption date.

Our business and financial performance are impacted significantly by market interest rates and movements in those rates.

As a result of the high percentage of our assets and liabilities that are in the form of interest-bearing or interest-related instruments, changes in interest rates, in the shape of the yield curve, or in spreads between different market interest rates can have a material effect on our business, our profitability and the value of our financial assets and liabilities. For example:

- Changes in interest rates or interest rate spreads can affect the difference between the interest that we earn on assets and the interest that we pay on liabilities, which impacts our overall net interest income and margin as well as our profitability.
- Such changes can affect the ability of borrowers to meet obligations under variable or adjustable rate loans and other debt instruments, and can, in turn, increase our credit losses on those assets.
- Such changes may decrease the demand for interest rate-based products and services, including loans and deposit accounts.
- Such changes can also affect our ability to hedge various forms of market and interest rate risk and may decrease the effectiveness of those hedges in helping to manage such risks.
- Movements in interest rates also affect mortgage prepayment speeds and could result in impairments of mortgage servicing assets or otherwise affect the profitability of such assets.
- Increases in interest rates can lower the price we would receive on fixed-rate customer obligations if we were to sell them.

The rates on some interest-bearing instruments adjust promptly in accordance with changes in market rates, while others adjust only periodically or are fixed throughout a defined term. As a result, the impact of changes in interest rates can be either increased or diluted due to differences in the relative variability of the rates paid on our liabilities in relation to the rates received on our assets. The extent to which we have elected to hedge interest rate risk through interest rate swaps also affects the impact of rate changes. We attempt to manage the balance sheet to increase our benefit or reduce negative impacts from future movements in interest rates, but failures to anticipate actual movements may have the opposite result.

Currently, market interest rates are generally increasing. While, in general, higher interest rates enhance our ability to grow our net interest income, there are risks associated with a rising interest rate environment. For one thing, customers may be less willing overall to borrow at higher rates and the value of asset classes typically financed through secured loans may be negatively affected. These effects are likely to be found in home lending and other real estate finance businesses. As another example, there may be increased competitive pressures as rates on deposit products rise. The benefits of higher interest rates are best achieved if we can increase the rates on loans and other assets faster than the rates on deposits and other liabilities increase. We may not be able to achieve this result in a rising rate environment.

We discuss the impact of governmental monetary policy on interest rates, including recent increases by the Federal Reserve in its benchmark interest rates, under "The policies of the Federal Reserve and other governmental agencies have a significant impact on interest rates and overall financial market performance" Risk Factor in this Item 1A.

Our business and financial performance are vulnerable to the impact of changes in the values of financial assets.

As a financial institution, a substantial majority of our assets and liabilities are financial in nature. Examples include loans, securities, servicing rights, deposits and borrowings. Such assets and liabilities will fluctuate in value, often significantly, due to movements in the financial markets or market volatility as well as developments specific to the asset or liability in question. Credit-based assets and liabilities will fluctuate in value due to changes in the perceived creditworthiness of borrowers or other counterparties and also due to changes in market interest rates.

Changes in loan prepayment speeds, usually based on fluctuations in market interest rates, could adversely impact the value of our mortgage servicing rights. Also, the underlying value of assets under lease or securing an obligation may decrease due to supply and demand for the asset or the condition of the asset. This could negatively impact the ability to collect fully on the secured obligation.

In many cases, we mark our assets and liabilities to market on our financial statements, either through Net income and Retained earnings or through adjustments to Accumulated other comprehensive income. We may need to record losses in the value of financial assets even where our expectation of realizing the face value of the underlying instrument has not changed. Other assets and liabilities are not marked to market. As a result, our balance sheet may not precisely represent the fair market value of our financial assets and liabilities.

In addition, asset management revenue is earned primarily based on a percentage of the value of the assets being managed and thus is impacted by general changes in market valuations. Thus, although we are not directly impacted by changes in the value of such assets, decreases in the value of those assets would affect related Noninterest income.

Our asset and liability valuations and the determination of the amount of loss allowances and impairments taken on our assets are highly subjective. Inaccurate estimates could materially impact our results of operations or financial position.

We must use estimates, assumptions and judgments when assets and liabilities are measured and reported at fair value. Assets and liabilities carried at fair value inherently result in a higher degree of financial statement volatility. Changes in underlying factors or assumptions in any of the areas underlying our estimates could materially impact our future financial condition and results of operations. During periods of market disruption, it may be more difficult to value certain assets if trading becomes less frequent and/or market data becomes less observable. There may be certain asset classes that were historically traded in active markets with significant observable data that rapidly become illiquid due to market volatility, a loss in market confidence or other factors. In addition, we have certain assets and liabilities carried at fair value that are estimated using unobservable inputs that are significant to the fair value of the assets or liabilities. The valuation of any asset or liability substantially based on unobservable inputs is necessarily less reliable than those based on active trading markets. Further, rapidly changing and unprecedented market conditions in any particular market could materially impact the valuation of assets as reported within our consolidated financial statements. Our ability to hedge exposure is in part dependent on our ability to value the related assets or liabilities.

The determination of the amount of loss allowances and asset impairments varies by asset type and is based upon our periodic evaluation and assessment of known and inherent risks associated with the respective asset class. Management updates its evaluations regularly and reflects changes in allowances and impairments in operations as such evaluations are revised. Although we have policies and procedures in place to determine loss allowance and asset impairments, due to the subjective nature of this area, there can be no assurance that our management has accurately assessed the level of impairments taken and allowances reflected in our financial statements. Furthermore, additional impairments may need to be taken or allowances provided for in the future. Historical trends may not be indicative of future impairments or allowances.

There are risks resulting from the extensive use of models in our business.

We rely on quantitative models to measure risks and to estimate many financial values. We use models throughout much of our business, relying on them for much of our decision making. Examples of areas we use models include determining the pricing of various products, grading loans and extending credit, measuring interest rate and other market risks, predicting or estimating losses, assessing capital adequacy, and calculating economic and regulatory capital levels. We also use models to estimate the value of financial instruments and balance sheet items. Poorly designed or implemented models present the risk that our business decisions based on information incorporating model output will be adversely affected due to the inadequacy of that information. Also, information we provide to the public or to our regulators based on poorly designed or implemented models could be inaccurate or misleading. Some of the decisions that our regulators make, including those related to capital distributions to our shareholders, could be affected adversely if they perceive that the quality of the relevant models used is insufficient.

Our success depends on our ability to attract and retain customers for our products and services, which may be negatively impacted by a lack of consumer and business economic confidence as well as our actions, including our ability to anticipate and satisfy customer demands for products and services.

As a financial institution, our performance is subject to risks associated with declines in customer demand for our products and services, including as a result of a loss of economic confidence or customer trust in us.

Economic and market developments may affect consumer and business confidence levels. If customers lose confidence due to concerns regarding the economy, the demand for our products and services could suffer. We may also fail to attract or retain customers if we are unable to develop and market products and services that meet evolving customer needs or demands or if we are unable to deliver them effectively and securely to our customers. This is particularly true to the extent that our competitors are better able to do so.

News or other publicity that harms our reputation, or the reputation of our industry generally, also could cause a loss of customers or a reduction in the extent to which customers do business with us. Financial companies are highly vulnerable to reputational damage when they are found to have harmed customers, particularly retail customers, through conduct that is seen as illegal, unfair, deceptive, manipulative or otherwise wrongful. The negative impact of such reputational damage on our business may be disproportionate to the actual harm caused to customers. In addition, we could suffer reputational harm and a loss of customer trust as a result of conduct of others in the industry even where we have not engaged in the conduct. We use third parties to help in many aspects of our business, with the risk that their conduct can affect our reputation regardless of the degree to which we are responsible for it. We are also subject to the risk of reputational harm resulting from conduct of employees outside of the scope of their employment, including through activities on social media.

If we fail to attract and retain customers, demand for our loans and other financial products and services could decrease and we could experience adverse changes in payment patterns. We could lose interest income from a decline in credit usage and noninterest income from a decline in product sales, investments and other transactions. Our customers could remove money from checking, savings or other types of deposit accounts in favor of other banks or other types of investment products. Deposits are a low cost source of funds for us. Therefore, losing deposits could increase our funding costs and reduce our net interest income.

The U.S. is emerging from an extended period of very low interest rates. Very low interest rates decrease the attractiveness of alternatives to bank checking and savings accounts, which may lack deposit insurance and some of the convenience associated with more traditional banking products. As interest rates rise, customers may be less willing to maintain balances in noninterest-bearing or low interest bank accounts. In addition, if the spread between the rates we offer and those offered by alternatives to bank accounts widens, customers could be willing to forego benefits of bank accounts for the higher return. As a result, we could suffer a relatively higher cost of funds, with a negative impact on net interest income. Loss of customers could also harm noninterest income.

In our asset management business, investment performance is an important factor influencing the level of assets that we manage. Poor investment performance could hurt revenue and growth as existing clients might withdraw funds in favor of better performing products. Additionally, the ability to attract funds from existing and new clients might diminish. Overall economic conditions may limit the amount that customers are able or willing to invest as well as the value of the assets they do invest. The failure or negative performance of products of other financial institutions could lead to a loss of confidence in similar products offered by us without regard to the performance of our products. Such a negative contagion could lead to withdrawals, redemptions and liquidity issues in such products and have an adverse impact on our assets under management and asset management revenues and earnings.

We rely on third party vendors, service providers and other counterparties to help support many aspects of our business. To this extent, our direct control of activities related to our business is reduced, which could introduce risk.

Our use of third parties to support our business needs typically means that we do not directly control the activities we are having them perform. Risks can arise through greater complexity and inadequate performance by the third party, specifically where that performance could affect us or our customers. Many of the kinds of risks presented by activities performed by third parties are described elsewhere in these Risk Factors. For example, outside companies may assist us in processing confidential customer or employee information. In such a case, a cyber attack on another company may result in access to our customers' or employees' information. An outside company may also fail to comply with legal requirements relevant to its work on our behalf. We may in those circumstances suffer financial losses, legal consequences and injury to our reputation. Even if the other company makes us whole for financial losses, which is not necessarily the case, it is unlikely that it would be able to restore our reputation. As a result, the use of third parties to assist in our business activities heightens the risks to us inherent in those activities.

We operate in a highly competitive environment in terms of the products and services we offer and the geographic markets in which we conduct business. The labor markets where we compete for talented employees are also highly competitive. Competition could adversely impact our customer acquisition, growth and retention, as well as our credit spreads and product pricing, causing us to lose market share and deposits and revenues.

We are subject to intense competition from various financial institutions as well as from non-bank entities that engage in many similar activities without being subject to bank regulatory supervision and restrictions. This competition is described in Item 1 of this Report under "Competition."

The principal bases for competition are pricing, product structure, the range of products and services offered and the quality of customer service. Pricing in our industry includes interest rates on loans and deposits as well as fees for various services. Customer service expectations include ease of doing business and responsiveness to needs and concerns. The ability to access and use technology is an increasingly important competitive factor in the financial services industry. Having the right technology is a critically important component to customer satisfaction as it affects our ability to deliver the products and services that customers desire and in a manner that they find convenient and attractive. Banks generally are facing the risk of increased competition from products and services offered by non-bank financial technology companies, particularly related to payment services and lending.

Consolidation in our industry, including among smaller banks combining to form more competitive larger ones and between banks and non-bank entities, could result in PNC facing more intense competition, particularly in impacted regions or with respect to particular products.

Another increasingly competitive factor in the financial services industry is the ability to attract and retain talented employees across many of our businesses and support areas. This factor presents greater risk when we are expanding into new markets, developing new product lines, or significantly enhancing staffing in certain areas, particularly technology. This competition leads to increased expenses in many business areas and can also cause us to not pursue certain business opportunities. Limitations on the manner in which regulated financial institutions can compensate their officers and employees, including those contained in pending rule proposals implementing requirements of Dodd-Frank, may make it more difficult for regulated financial institutions, including PNC, to compete with unregulated financial institutions for talent.

A failure to adequately address the competitive pressures we face could make it harder for us to attract and retain customers across our businesses. On the other hand, meeting these competitive pressures could require us to incur significant additional expense or to accept risk beyond what we would otherwise view as desirable under the circumstances. In addition, in our interest rate sensitive businesses, pressures to increase rates on deposits or decrease rates on loans could reduce our net interest margin, resulting in a negative impact on our net interest income.

We continually encounter technological change and need to keep pace with this change in order to maintain or enhance the competitiveness of our businesses.

The financial services industry is undergoing rapid technological change with frequent introductions of new technology-driven products and services. Examples include expanded use of cloud computing, artificial intelligence and machine learning, virtual and augmented reality, biometric authentication, voice and natural language, and data protection enhancements, as well as increased online and mobile device interaction with customers. The effective use of technology increases efficiency and enables financial institutions to better serve customers. We have been investing in technology and connectivity in order to automate functions previously performed manually, to facilitate the ability of customers to engage in financial transactions, and otherwise to enhance the customer experience with respect to our products and services. On the retail banking side, this has included developments such as more sophisticated ATMs (including the ability to cash checks using exact change), cashless bank branches, and expanded access to banking transactions (including mobile deposits, instant availability of funds, online loan applications and real time payment processing) through the internet, smart phones, tablets and other mobile devices. These efforts have all been in response to actual and anticipated customer behavior and expectations. Our continued success depends, in part, upon our ability to address the needs of our customers by using technology to provide products and services that satisfy customer demands, including demands for faster and more secure payment services, and create efficiencies in our operations. A failure to maintain or enhance our competitive position with respect to technology, whether because we fail to anticipate customer expectations or because our technological developments fail to perform as desired or are not rolled out in a timely manner, may cause us to lose market share or incur additional expense.

Societal responses to climate change could adversely affect our business and performance, including indirectly through impacts on our customers.

Concerns over the long-term impacts of climate change have led and will continue to lead to governmental efforts around the world to mitigate those impacts. Consumers and businesses also may change their behavior on their own as a result of these concerns. PNC and its customers will need to respond to new laws and regulations as well as consumer and business preferences resulting from climate change concerns. We and our customers may face cost increases, asset value reductions, operating process changes, and the like. The impact on our customers will likely vary depending on their specific attributes, including reliance on or role in carbon intensive activities. Among the impacts to PNC could be a drop in demand for our products and services, particularly in certain sectors. In addition, we could face reductions in creditworthiness on the part of some customers or in the value of assets securing loans. Our efforts to take these risks into account in making lending and other decisions, including by increasing our business with climate-friendly companies, may not be effective in protecting us from the negative impact of new laws and regulations or changes in consumer or business behavior.

Our business and financial results could be impacted materially by adverse results in legal proceedings.

Many aspects of our business involve substantial risk of legal liability. We have been named or threatened to be named as defendants in various lawsuits arising from our business activities. In addition, we are regularly the subject of governmental investigations and other forms of regulatory inquiry. We also are at risk when we have agreed to indemnify others for losses related to legal proceedings they face, such as in connection with the sale of a business or assets by us. The results of these legal proceedings could lead to significant monetary damages or penalties, restrictions on the way in which we conduct our business, or reputational harm.

Although we establish accruals for legal proceedings when information related to the loss contingencies represented by those matters indicates both that a loss is probable and that the amount of loss can be reasonably estimated, we do not have accruals for all legal proceedings where we face a risk of loss. In addition, due to the inherent subjectivity of the assessments and unpredictability of the outcome of legal proceedings, amounts accrued may not represent the ultimate loss to us from the legal proceedings in question. Thus, our ultimate losses may be higher, and possibly significantly so, than the amounts accrued for legal loss contingencies. We discuss further the unpredictability of legal proceedings and describe certain of our pending legal proceedings in Note 19 Legal Proceedings in the Notes To Consolidated Financial Statements in Item 8 of this Report.

We have a substantial minority equity interest in BlackRock, a publicly traded company, and its business operations and financial performance can adversely affect PNC and our results.

Our investment in BlackRock represents a significant investment for PNC and contributes both income (through equity method accounting) and cash inflows (through dividends) to PNC. See Note 22 Segment Reporting in the Notes To Consolidated Financial Statements in Item 8 of this Report. In 2018, BlackRock contributed 15% of our net income. The value of our investment in BlackRock and its contribution to our financial results are vulnerable to poor financial performance or other issues at BlackRock affecting its business. In addition, we rely on BlackRock for its financial results that, as discussed above, are included in our financial statements. BlackRock is responsible for, and has control over, the preparation of its financial statements and its internal controls over financial reporting. PNC may be impacted by factors such as poor performance or other issues, as well as by financial reporting control failures, at BlackRock, with the extent of the impact on us and our financial results depending on the severity of the issue at BlackRock.

BlackRock is a public company that files separately with the SEC. In its filings with the SEC, BlackRock provides disclosure as to its business, including disclosure regarding its views as to the drivers of its financial performance and the most significant risks it faces. Its SEC filings also include certifications and disclosure regarding internal controls over financial reporting and disclosure controls.

We grow our business in part by acquiring other financial services businesses from time to time. Sometimes these are businesses with technologies or other assets valuable to us even if they do not themselves provide financial services to customers. These acquisitions present a number of risks and uncertainties related both to the acquisition transactions themselves and to the integration of the acquired businesses into PNC after closing.

Acquisitions of other companies or of financial assets and related deposits and other liabilities present risks and uncertainties to us in addition to those presented by the nature of the business acquired.

Acquisitions may be substantially more expensive or take longer to complete than anticipated. This risk includes unanticipated costs incurred in connection with the integration of the acquired business. Anticipated benefits (such as cost savings from synergies or strategic gains from being able to offer product sets to a broader potential customer base) may not be fully realized. It can take longer or require greater resources to achieve these benefits. It also may prove impossible to achieve them at all or in their entirety as a result of unexpected factors or events.

Specific factors that can affect our ability to achieve anticipated results from acquisitions may include, depending on the nature of the business acquired, the following:

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If the acquisition includes loan portfolios, the extent of credit losses following completion of the acquisition. Similarly, if the acquisition includes deposits, the extent of deposit attrition post-closing. Acquisitions of banking companies typically include both loans and deposits. These factors will be affected by a number of factors, including the state of the economy following the acquisition and the quality of our pre-acquisition analysis of the acquired business.

- If a significant aspect of the value of an acquired business is intellectual property, the extent to which the intellectual property may be protected and commercialized by PNC following the acquisition.
- If the acquisition involves entering into new businesses or geographic or other markets, our inability to take advantage of these opportunities as a result of our inexperience with respect to them.
- The results of litigation and governmental investigations that may be pending at the time of the acquisition or be filed or commenced thereafter, as a result of an acquisition or otherwise. It is often hard to predict the results of such legal proceedings. It may also be hard to anticipate what legal proceedings may be started following an acquisition.
- The extent to which client attrition from the acquired business exceeds expectations.

Our ability to analyze the risks presented by prospective acquisitions, as well as our ability to prepare in advance of closing for integration, depends, in part, on the information we can gather with respect to the business we are acquiring, which can be quite limited. Our pre-acquisition review of the business may also impact our ability to prepare for and execute on the integration of an acquired business.

As a regulated financial institution, our ability to pursue or complete attractive acquisition opportunities could be negatively impacted by regulatory issues, including delays in obtaining required approvals. Our ability to make large acquisitions in the future may be negatively impacted as well by regulatory rules or future regulatory initiatives designed to limit systemic risk and the potential for a financial institution to become "too big to fail."

Our business and financial performance could be adversely affected, directly or indirectly, by disasters, natural or otherwise, by terrorist activities or by international hostilities.

Neither the occurrence nor the potential impact of disasters (whether caused naturally or by human conduct), terrorist activities and international hostilities can be predicted. However, these occurrences could adversely impact us, for example, by causing significant damage to our facilities or preventing us from conducting our business in the ordinary course. Also, their impact on our borrowers, depositors, other customers, suppliers or other counterparties could result in indirect adverse effects on us. Other indirect adverse consequences from disasters, terrorist activities or international hostilities could result from impacts to the financial markets or the economy in general or in any particular region. These types of indirect effects could lead, for example, to an increase in delinquencies, bankruptcies or defaults that could result in our experiencing higher levels of nonperforming assets, net charge-offs and provisions for credit losses. They could also cause a reduction in demand for lending or other services that we provide. Climate change may be increasing the frequency or severity of adverse weather conditions, making the impact from these types of natural disasters on us or our customers worse.

Our ability to mitigate the adverse consequences of such occurrences is in part dependent on the quality of our resiliency planning. This includes our ability to anticipate the nature of any such event that might occur. The adverse impact of disasters, terrorist activities or international hostilities also could be increased to the extent that there is a lack of preparedness on the part of national or regional emergency responders or on the part of other organizations and businesses that we deal with, many of which we depend on but have limited or no control over.

ITEM 1B – UNRESOLVED STAFF COMMENTS

There are no SEC staff comments regarding PNC's periodic or current reports under the Exchange Act that are pending resolution.

ITEM 2 – PROPERTIES

Our executive and primary administrative offices are currently located at The Tower at PNC Plaza, Pittsburgh, Pennsylvania. The 33-story structure is owned by PNC Bank, National Association.

We own or lease numerous other premises for use in conducting business activities, including operations centers, offices, and branches and other facilities. We consider the facilities owned or occupied under lease by our subsidiaries to be adequate for the purposes of our business operations. We include here by reference the additional information regarding our properties in Note 8 Premises, Equipment and Leasehold Improvements in the Notes To Consolidated Financial Statements in Item 8 of this Report.

ITEM 3 – LEGAL PROCEEDINGS

See the information set forth in Note 19 Legal Proceedings in the Notes To Consolidated Financial Statements in Item 8 of this Report, which is incorporated here by reference.

ITEM 4 – MINE SAFETY DISCLOSURES

Not applicable

EXECUTIVE OFFICERS OF THE REGISTRANT

Information regarding each of our executive officers as of February 22, 2019 is set forth below. Executive officers do not have a stated term of office. Each executive officer has held the position or positions indicated or another executive position with the same entity or one of its affiliates for the past five years unless otherwise indicated below.

Name	Age	Position with PNC	Year Employed (a)
William S. Demchak	56	Chairman, President and Chief Executive Officer (b)	2002
Michael J. Hannon	62	Executive Vice President and Chief Credit Officer	1982
Vicki C. Henn	50	Executive Vice President and Chief Human Resources Officer	1994
Gregory B. Jordan	59	Executive Vice President, General Counsel and Chief Administrative Officer	2013
Stacy M. Juchno	43	Executive Vice President and General Auditor	2009
Karen L. Larrimer	56	Executive Vice President, Chief Customer Officer and Head of Retail Banking	1995
Michael P. Lyons	48	Executive Vice President, Head of Corporate & Institutional Banking and Head of Asset Management Group	2011
E William Parsley, III	53	Executive Vice President and Chief Operating Officer	2003
Robert Q. Reilly	54	Executive Vice President and Chief Financial Officer	1987
Joseph E. Rockey	54	Executive Vice President and Chief Risk Officer	1999
Steven Van Wyk	60	Executive Vice President and Head of Technology and Innovation	2013
Gregory H. Kozich	55	Senior Vice President and Controller	2010

(a) Where applicable, refers to year employed by predecessor company.

(b) Mr. Demchak also serves as a director. Biographical information for Mr. Demchak is included in “Election of Directors (Item 1)” in our proxy statement for the 2019 annual meeting of shareholders. See Item 10 of this Report.

Michael J. Hannon has served as Executive Vice President since 2009, prior to which he was a Senior Vice President. He has served as Chief Credit Officer since 2001 and was Interim Chief Risk Officer from December 2011 to February 2012.

Vicki C. Henn has served as Executive Vice President and Chief Human Resources Officer of PNC since July 2014. Ms. Henn joined PNC in 1994 and has held numerous management positions. Prior to being named to her current position, Ms. Henn was a Senior Vice President, responsible for Human Resources for Retail Banking.

Gregory B. Jordan joined PNC in 2013 as Executive Vice President, General Counsel and Head of Regulatory and Government Affairs. In February 2016, Mr. Jordan was also appointed Chief Administrative Officer. Prior to joining PNC, he served as the Global Managing Partner for the last 13 years of his 29 year tenure at Reed Smith LLP.

Stacy M. Juchno has served as Executive Vice President and General Auditor of PNC since April 2014 and previously served as Senior Vice President and Finance Governance and Oversight Director.

Karen L. Larrimer was appointed Executive Vice President in 2013 and became head of PNC’s Retail Banking in 2016. She has also served as Chief Customer Officer since April 2014, prior to which she served as Chief Marketing Officer.

Michael P. Lyons has been an Executive Vice President since 2011 and is head of PNC’s Corporate & Institutional Banking. Mr. Lyons assumed responsibility for PNC's Asset Management Group in January 2018. Prior to joining PNC in October 2011, from May 2010 until October 2011, Mr. Lyons was head of corporate development and strategic planning for Bank of America.

E William Parsley, III has served as Executive Vice President since 2009. In February 2018, Mr. Parsley was appointed Chief Operating Officer. Previously, he served as Treasurer and Chief Investment Officer since 2004 and head of Consumer Lending since the spring of 2016.

Robert Q. Reilly was appointed Chief Financial Officer in 2013. He served as the head of PNC's Asset Management Group from 2005 until April 2013. Previously, he held numerous management roles in both Corporate Banking and Asset Management. He was appointed Executive Vice President in 2009.

Joseph E. Rockey was appointed Executive Vice President and Chief Risk Officer in January 2015. Prior to his appointment, Mr. Rockey led enterprise risk management and the Basel office within PNC's risk management organization.

Steven Van Wyk joined PNC as Head of Technology and Operations in 2013 and was appointed Head of Technology and Innovation in April 2017. He was appointed Executive Vice President of PNC in 2013. From 2007 until joining PNC, Mr. Van Wyk served as Global Chief Operating Officer for ING.

Gregory H. Kozich has served as Controller of PNC since 2011. He was appointed as Senior Vice President in 2010. Prior to joining PNC in 2010, Mr. Kozich was with the Federal National Mortgage Association from 2005 until late 2010, most recently serving as its corporate controller.

PART II
ITEM 5 – MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

(a) (1) Our common stock is listed on the New York Stock Exchange and is traded under the symbol "PNC." At the close of business on February 15, 2019, there were 53,986 common shareholders of record.

Holders of PNC common stock are entitled to receive dividends when declared by our Board of Directors out of funds legally available for this purpose. Our Board of Directors may not pay or set apart dividends on the common stock until dividends for all past dividend periods on any series of outstanding preferred stock and certain outstanding capital securities issued by the parent company have been paid or declared and set apart for payment. The Board of Directors presently intends to continue the policy of paying quarterly cash dividends. The amount of any future dividends will depend on economic and market conditions, our financial condition and operating results, and other factors, including contractual restrictions and applicable government regulations and policies (such as those relating to the ability of bank and non-bank subsidiaries to pay dividends to the parent company and regulatory capital limitations). The amount of our dividend is also currently subject to the results of the supervisory assessment of capital adequacy and capital planning processes undertaken by the Federal Reserve and our primary bank regulators as part of the Comprehensive Capital Analysis and Review (CCAR) process as described in the Supervision and Regulation section in Item 1 of this Report.

The Federal Reserve has the power to prohibit us from paying dividends without its approval. For further information concerning dividend restrictions and other factors that could limit our ability to pay dividends, as well as restrictions on loans, dividends or advances from bank subsidiaries to the parent company, see the Supervision and Regulation section in Item 1, Item 1A Risk Factors, the Liquidity and Capital Management portion of the Risk Management section in Item 7, and Note 10 Borrowed Funds, Note 15 Equity and Note 18 Regulatory Matters in the Notes To Consolidated Financial Statements in Item 8 of this Report, which we include here by reference.

We include here by reference the information regarding our compensation plans under which PNC equity securities are authorized for issuance as of December 31, 2018 in the table (with introductory paragraph and notes) in Item 12 of this Report.
Our stock transfer agent and registrar is:
Computershare Trust Company, N.A.
250 Royall Street
Canton, MA 02021
800-982-7652
www.computershare.com/pnc
Registered shareholders may contact Computershare regarding dividends and other shareholder services.
We include here by reference the information that appears under the Common Stock Performance Graph caption at the end of this Item 5.
(a)(2) None.
(b) Not applicable.
(c) Details of our repurchases of PNC common stock during the fourth quarter of 2018 are included in the following table:

In thousands, except per share data

2018 period	Total shares purchased (a)	Average price paid per share	Total shares purchased as part of publicly announced programs (b)	Maximum number of shares that may yet be purchased under the programs (b)
October 1 – 31	1,204	$128.43	1,189	25,663

November 1 – 30	1,491	$ 133.79	1,491	24,172
December 1 – 31	3,458	$ 119.43	3,458	20,714
Total	6,153	$ 124.67		

(a) Includes PNC common stock purchased in connection with our various employee benefit plans generally related to forfeitures of unvested restricted stock awards and shares used to cover employee payroll tax withholding requirements. Note 11 Employee Benefit Plans and Note 12 Stock Based Compensation Plans in the Notes To Consolidated Financial Statements in Item 8 of this Report include additional information regarding our employee benefit and equity compensation plans that use PNC common stock.

(b) On March 11, 2015, we announced that our Board of Directors approved a stock repurchase program authorization in the amount of 100 million shares of PNC common stock, effective April 1, 2015. Repurchases are made in open market or privately negotiated transactions and the timing and exact amount of common stock repurchases will depend on a number of factors including, among others, market and general economic conditions, regulatory capital considerations, alternative uses of capital, the potential impact on our credit ratings, and contractual and regulatory limitations, including the results of the supervisory assessment of capital adequacy and capital planning processes undertaken by the Federal Reserve as part of the CCAR process. In June 2018, we announced share repurchase programs of up to $2.0 billion for the four quarter period beginning with the third quarter of 2018, including repurchases of up to $300 million related to stock issuances under employee benefit plans, in accordance with PNC's 2018 capital plan. In November 2018, we announced an increase to these previously announced programs in the amount of up to $900 million in additional common share repurchases. The aggregate repurchase price of shares repurchased during the fourth quarter of 2018 was $.8 billion. See the Liquidity and Capital Management portion of the Risk Management section in Item 7 of this Report for more information on the authorized share repurchase programs for the period July 1, 2018 through June 30, 2019.

Common Stock Performance Graph

This graph shows the cumulative total shareholder return (i.e., price change plus reinvestment of dividends) on our common stock during the five-year period ended December 31, 2018, as compared with: (1) a selected peer group as set forth below and referred to as the "Peer Group;" (2) an overall stock market index, the S&P 500 Index; and (3) a published industry index, the S&P 500 Banks. The yearly points marked on the horizontal axis of the graph correspond to December 31 of each year. The stock performance graph assumes that $100 was invested on January 1, 2014 for the five-year period and that dividends were reinvested. The table below the graph shows the resultant compound annual growth rate for the performance period.

	Base Period	Assumes $100 investment at Close of Market on December 31, 2013 Total Return = Price change plus reinvestment of dividends					5-Year Compound Growth Rate	
	Dec. 2013	Dec. 2014	Dec. 2015	Dec. 2016	Dec. 2017	Dec. 2018		
PNC	$ 100	$120.32	$128.51	$161.64	$203.60	$169.03	11.07	%
S&P 500 Index	$ 100	$113.68	$115.24	$129.02	$157.17	$150.27	8.49	%
S&P 500 Banks	$ 100	$115.51	$116.49	$144.81	$177.47	$148.30	8.20	%
Peer Group	$ 100	$110.15	$109.59	$144.66	$162.10	$135.40	6.25	%

The Peer Group for the preceding chart and table consists of the following companies: Bank of America Corporation; BB&T Corporation; Capital One Financial Corporation; Citizens Financial Group, Inc.; Fifth Third Bancorp; JPMorgan Chase & Co.; KeyCorp; M&T Bank Corporation; Regions Financial Corporation; SunTrust Banks, Inc.; The PNC Financial Services Group, Inc.; U.S. Bancorp; and Wells Fargo & Company. This Peer Group was approved for 2018 by the Board of Directors' Personnel and Compensation Committee. Such Committee has approved the same peer group for 2019.

Each yearly point for the Peer Group is determined by calculating the cumulative total shareholder return for each company in the Peer Group from December 31, 2013 to December 31 of that year (End of Month Dividend Reinvestment Assumed) and then using the median of these returns as the yearly plot point.

In accordance with the rules of the SEC, this section, captioned "Common Stock Performance Graph," is not incorporated by reference into any of our future filings made under the Securities Exchange Act of 1934 or the Securities Act of 1933. The Common Stock Performance Graph, including its accompanying table and footnotes, is not deemed to be soliciting material or to be filed under the Exchange Act or the Securities Act.

ITEM 6 – SELECTED FINANCIAL DATA

This Selected Financial Data should be reviewed in conjunction with the Consolidated Financial Statements and Notes included in
Item 8 of this Report as well as the other disclosures in this Report concerning our historical financial performance, our future
prospects and the risks associated with our business and financial performance.

	Year ended December 31				
Dollars in millions, except per share data	2018	2017	2016	2015	2014
Summary of Operations					
Interest income	$12,582	$10,814	$9,652	$9,323	$9,431
Interest expense	2,861	1,706	1,261	1,045	906
Net interest income	9,721	9,108	8,391	8,278	8,525
Noninterest income	7,411	7,221	6,771	6,947	6,850
Total revenue	17,132	16,329	15,162	15,225	15,375
Provision for credit losses	408	441	433	255	273
Noninterest expense	10,296	10,398	9,476	9,463	9,488
Income before income taxes and noncontrolling interests	6,428	5,490	5,253	5,507	5,614
Income taxes	1,082	102	1,268	1,364	1,407
Net income	5,346	5,388	3,985	4,143	4,207
Less: Net income attributable to noncontrolling interests	45	50	82	37	23
Preferred stock dividends	236	236	209	220	232
Preferred stock discount accretion and redemptions	4	26	6	5	5
Net income attributable to common shareholders	$5,061	$5,076	$3,688	$3,881	$3,947
Per Common Share					
Basic earnings	$10.79	$10.49	$7.42	$7.52	$7.44
Diluted earnings	$10.71	$10.36	$7.30	$7.39	$7.30
Book value	$95.72	$91.94	$85.94	$81.84	$77.61
Cash dividends declared	$3.40	$2.60	$2.12	$2.01	$1.88
Effective tax rate (a) (b)	16.8 %	1.9 %	24.1 %	24.8 %	25.1 %
Performance Ratios					
Net interest margin (c)	2.97 %	2.87 %	2.73 %	2.74 %	3.08 %
Noninterest income to total revenue	43 %	44 %	45 %	46 %	45 %
Efficiency	60 %	64 %	62 %	62 %	62 %
Return on:					
Average common shareholders' equity (b)	11.83 %	12.09 %	8.85 %	9.50 %	9.91 %
Average assets (b)	1.41 %	1.45 %	1.10 %	1.17 %	1.28 %

(a) The effective tax rates are generally lower than the statutory rate due to the relationship of pretax income to tax credits and earnings that are not subject to tax.

(b) The 2018 results reflected the change in the statutory federal income tax rate from 35% to 21%, effective January 1, 2018, as a result of the new federal tax legislation. The 2017 results reflected an income tax benefit from the new federal tax legislation primarily attributable to revaluation of deferred tax liabilities at the lower statutory tax rate.

(c) Net interest margin is the total yield on interest-earning assets minus the total rate on interest-bearing liabilities and includes the benefit from use of noninterest-bearing sources. To provide more meaningful comparisons of net interest margins, we use net interest income on a taxable-equivalent basis in calculating average yields used in the calculation of net interest margin by increasing the interest income earned on tax-exempt assets to make it fully equivalent to interest income earned on taxable investments. This adjustment is not permitted under GAAP in the Consolidated Income Statement. For additional information, see Reconciliation of Taxable-Equivalent Net Interest Income (Non-GAAP) Statistical Information (Unaudited) in Item 8 of this Report.

Certain prior period amounts have been reclassified to conform with the current period presentation, which we believe is more meaningful to readers of our consolidated financial statements.

	At or for the year ended December 31				
Dollars in millions, except as noted	2018	2017	2016	2015	2014
Balance Sheet Highlights					
Assets	$382,315	$380,768	$366,380	$358,493	$345,072
Loans	$226,245	$220,458	$210,833	$206,696	$204,817
Allowance for loan and lease losses	$2,629	$2,611	$2,589	$2,727	$3,331
Interest-earning deposits with banks (a)	$10,893	$28,595	$25,711	$30,546	$31,779
Investment securities	$82,701	$76,131	$75,947	$70,528	$55,823
Loans held for sale	$994	$2,655	$2,504	$1,540	$2,262
Equity investments (b)	$12,894	$11,392	$10,728	$10,587	$10,728
Mortgage servicing rights	$1,983	$1,832	$1,758	$1,589	$1,351
Goodwill	$9,218	$9,173	$9,103	$9,103	$9,103
Other assets	$34,408	$27,894	$27,506	$26,566	$28,180
Noninterest-bearing deposits	$73,960	$79,864	$80,230	$79,435	$73,479
Interest-bearing deposits	$193,879	$185,189	$176,934	$169,567	$158,755
Total deposits	$267,839	$265,053	$257,164	$249,002	$232,234
Borrowed funds (c)	$57,419	$59,088	$52,706	$54,532	$56,768
Total shareholders' equity	$47,728	$47,513	$45,699	$44,710	$44,551
Common shareholders' equity	$43,742	$43,530	$41,723	$41,258	$40,605
Accumulated other comprehensive income (loss)	$(725)	$(148)	$(265)	$130	$503
Period-end common shares outstanding (millions)	457	473	485	504	523
Loans to deposits	84%	83%	82%	83%	88%
Client Assets (billions)					
Discretionary client assets under management	$148	$151	$137	$134	$135
Nondiscretionary client assets under administration	124	131	120	119	123
Total client assets under administration	272	282	257	253	258
Brokerage account client assets	47	49	44	43	43
Total	$319	$331	$301	$296	$301
Capital Ratios (d) (e)					
Basel III (f)					
Common equity Tier 1	9.6%	9.8%	10.0%	10.0%	10.0%
Tier 1 risk-based	10.8%	N/A	N/A	N/A	N/A
Total capital risk-based	13.0%	N/A	N/A	N/A	N/A
Transitional Basel III					
Common equity Tier I	N/A	10.4%	10.6%	10.6%	10.9%
Tier 1 risk-based capital	N/A	11.6%	12.0%	12.0%	12.6%
Other Selected Ratios					
Dividend payout	31.5%	24.7%	29.0%	27.0%	25.3%
Common shareholders' equity to total assets	11.4%	11.4%	11.4%	11.5%	11.8%
Average common shareholders' equity to average assets	11.3%	11.3%	11.5%	11.5%	12.1%
Selected Statistics					
Employees	53,063	52,906	52,006	52,513	53,587
Retail Banking branches	2,372	2,459	2,520	2,616	2,697
ATMs	9,162	9,051	9,024	8,956	8,605

(a) Includes balances held with the Federal Reserve Bank of Cleveland of $10.5 billion, $28.3 billion, $25.1 billion, $30.0 billion and $31.4 billion as of December 31, 2018, 2017, 2016, 2015 and 2014, respectively.

(b) Includes our equity interest in BlackRock. On January 1, 2018, $.6 billion of trading and available for sale securities, primarily money market funds, were reclassified to Equity investments in accordance with the adoption of Accounting Standards Update (ASU) 2016-01. See the Recently Adopted Accounting Standards portion of Note

1 Accounting Policies in Item 8 of this Report for additional detail on this adoption.

(c) Includes long-term borrowings of $37.4 billion, $43.1 billion, $38.3 billion, $43.6 billion and $41.5 billion for 2018, 2017, 2016, 2015 and 2014, respectively. Borrowings which mature more than one year after December 31, 2018 are considered to be long-term.

(d) See capital ratios discussion in the Supervision and Regulation section of Item 1 and in the Liquidity and Capital Management portion of the Risk Management section in Item 7 of this Report for additional discussion on these capital ratios. Additional information on the 2014-2016 fully phased-in ratios and Transitional Basel III ratios is included in the Statistical Information (Unaudited) section in Item 8 of this Report.

(e) All ratios are calculated using the regulatory capital methodology applicable to PNC during each period presented, except for the prior period Basel III Common equity Tier 1 ratios, which are fully phased-in Basel III ratios and are presented as pro forma estimates. Ratios for all periods were calculated based on the standardized approach.

(f) The 2018 Basel III ratios for Common equity Tier 1 capital and Tier 1 risk-based capital reflect the full phase-in of all Basel III adjustments to these metrics applicable to PNC. The 2018 Basel III Total risk-based capital ratio includes $80 million of nonqualifying trust preferred capital securities that are subject to a phase-out period that runs through 2021.

ITEM 7 – MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS (MD&A)
EXECUTIVE SUMMARY

Key Strategic Goals
At PNC we manage our company for the long term. We are focused on the fundamentals of growing customers, loans, deposits and revenue and improving profitability, while investing for the future and managing risk, expenses and capital. We continue to invest in our products, markets and brand, and embrace our commitments to our customers, shareholders, employees and the communities where we do business.

We strive to expand and deepen customer relationships by offering a broad range of deposit, credit and fee-based products and services. We are focused on delivering those products and services to our customers with the goal of addressing their financial objectives and putting customers' needs first. Our business model is built on customer loyalty and engagement, understanding our customers' financial goals and offering our diverse products and services to help them achieve financial well-being. Our approach is concentrated on organically growing and deepening client relationships across our businesses that meet our risk/return measures.

We are focused on our strategic priorities, which are designed to enhance value over the long term, and consist of:
- Expanding our leading banking franchise to new markets and digital platforms;
- Deepening customer relationships by delivering a superior banking experience and financial solutions; and
- Leveraging technology to innovate and enhance products, services, security and processes.

Our capital priorities are to support client growth and business investment, maintain appropriate capital in light of economic conditions, the Basel III framework, and other regulatory expectations, and return excess capital to shareholders. For more detail, see the Capital Highlights portion of this Executive Summary and the Liquidity and Capital Management portion of the Risk Management section of this Item 7 and the Supervision and Regulation section in Item 1 Business of this Report.

Key Factors Affecting Financial Performance
We face a variety of risks that may impact various aspects of our risk profile from time to time. The extent of such impacts may vary depending on factors such as the current business and economic conditions, political and regulatory environment and operational challenges. Many of these risks and our risk management strategies are described in more detail elsewhere in this Report.
Our financial performance is substantially affected by a number of external factors outside of our control, including the following:
- Global and domestic economic conditions, including the continuity, speed and stamina of the current U.S. economic expansion;
- The monetary policy actions and statements of the Federal Reserve and the Federal Open Market Committee (FOMC);
- The level of, and direction, timing and magnitude of movement in, interest rates and the shape of the interest rate yield curve;
- The functioning and other performance of, and availability of liquidity in, U.S. and global financial markets, including capital markets;
- The impact of tariffs and other trade policies of the U.S. and its global trading partners;
- Changes in the competitive and regulatory landscape;
- The impact of legislative, regulatory and administrative initiatives and actions;
- The impact of market credit spreads on asset valuations;
- The ability of customers, counterparties and issuers to perform in accordance with contractual terms, and the resulting impact on our asset quality;

- Loan demand, utilization of credit commitments and standby letters of credit; and
- The impact on customers and changes in customer behavior due to changing business and economic conditions or regulatory or legislative initiatives, including the 2017 federal tax legislation.

In addition, our success will depend upon, among other things:
- Effectively managing capital and liquidity including:
- Continuing to maintain and grow our deposit base as a low-cost stable funding source;
- Prudent liquidity and capital management to meet evolving regulatory capital, capital planning, stress testing and liquidity standards; and
- Actions we take within the capital and other financial markets.
- Management of credit risk in our portfolio;
- Execution of our strategic priorities;
- Our ability to manage and implement strategic business objectives within the changing regulatory environment;
- The impact of legal and regulatory-related contingencies; and
- The appropriateness of reserves needed for critical accounting estimates and related contingencies.

For additional information, see the Cautionary Statement Regarding Forward-Looking Information section in this Item 7 and Item 1A Risk Factors in this Report.

Income Statement Highlights

Net income for 2018 was $5.3 billion, or $10.71 per diluted common share, a decrease of 1% compared to $5.4 billion, or $10.36 per diluted common share, for 2017.

- Total revenue increased $803 million, or 5%, to $17.1 billion.
- Net interest income increased $613 million, or 7%, to $9.7 billion.
- Net interest margin increased to 2.97% for 2018 compared to 2.87% for 2017.
- Noninterest income increased $190 million, or 3%, to $7.4 billion.
- Provision for credit losses was $408 million in 2018 compared to $441 million for 2017.
- Noninterest expense decreased $102 million, or 1%, to $10.3 billion.
- Income tax expense was $1.1 billion in 2018 compared to $102 million in 2017, which reflected a benefit of $1.2 billion from federal tax legislation, the Tax Cut and Jobs Act, enacted in December 2017.

For additional detail, see the Consolidated Income Statement Review section of this Item 7.

Balance Sheet Highlights

Our balance sheet was strong and well positioned at December 31, 2018 and 2017. In comparison to December 31, 2017:

- Total loans increased $5.8 billion, or 3%, to $226.2 billion.
- Total commercial lending grew $4.9 billion, or 3%.
- Total consumer lending increased $.9 billion, or 1%.
- Total deposits increased $2.8 billion, or 1%, to $267.8 billion.
- Investment securities increased $6.6 billion, or 9%, to $82.7 billion.
- Interest earning deposits with banks, primarily with the Federal Reserve Bank, decreased $17.7 billion, or 62%, to $10.9 billion.
- Other assets increased $6.5 billion, or 23%, to $34.4 billion driven by higher short-term investments in resale agreements.

For additional detail, see the Consolidated Balance Sheet Review section of this Item 7.

Credit Quality Highlights

Overall credit quality remained strong.

- At December 31, 2018 compared to December 31, 2017:
  Nonperforming assets decreased $227 million, or 11%, to $1.8 billion.
  - Overall loan delinquencies of $1.5 billion decreased $35 million, or 2%.
- Net charge-offs of $420 million in 2018 decreased 8% compared to net charge-offs of $457 million for 2017.
- The allowance for loan and lease losses to total loans was 1.16% at December 31, 2018 and 1.18% at December 31, 2017.

For additional detail, see the Credit Risk Management portion of the Risk Management section of this Item 7.

Capital Highlights

We maintained a strong capital position during 2018 and continued to return capital to shareholders.

- The Basel III common equity Tier 1 capital ratio, which includes the full phase-in of all Basel III adjustments and became effective for PNC as of January 1, 2018, was 9.6% at December 31, 2018 compared with 9.8% at December 31, 2017, calculated on the same basis.
-

In 2018 we returned $4.4 billion of capital to shareholders through repurchases of 19.9 million common shares for $2.8 billion and dividends on common shares of $1.6 billion.

- In June 2018, we announced share repurchase programs of up to $2.0 billion for the four quarter period beginning with the third quarter of 2018, including repurchases of up to $300 million related to stock issuances under employee benefit plans. In November 2018, we announced an increase to these previously announced programs in the amount of up to $900 million in additional common share repurchases.

Our ability to take certain capital actions, including plans to pay or increase common stock dividends or to repurchase shares under current or future programs, is subject to the results of the supervisory assessment of capital adequacy undertaken by the Federal Reserve as part of the Comprehensive Capital Analysis and Review (CCAR) process. For additional information, see the Supervision and Regulation section in Item 1 Business of this Report.

See the Liquidity and Capital Management portion of the Risk Management section of this Item 7 for more detail on our 2018 capital and liquidity actions as well as our capital ratios.

Business Outlook
Statements regarding our business outlook are forward-looking within the meaning of the Private Securities Litigation Reform Act of 1995. Our forward-looking financial statements are subject to the risk that economic and financial market conditions will be substantially different than those we are currently expecting and do not take into account potential legal and regulatory contingencies. These statements are based on our view that U.S. economic growth has accelerated over the past two years to above its long-run trend. We expect further gradual improvement in the labor market this year, including job gains and rising wages, which would be a positive indicator for consumer spending. However, growth is expected to slow over the course of 2019. Trade restrictions and geopolitical concerns are downside risks to the forecast. Inflation is expected to slow in the first half of 2019, to below the FOMC's 2% objective. Short-term interest rates and bond yields are expected to rise very slowly in 2019. Our baseline forecast is for one more increase in the federal funds rate, in September 2019, pushing the rate to a range of 2.50% to 2.75% in the second half of this year. See the Cautionary Statement Regarding Forward-Looking Information section in this Item 7 and Item 1A Risk Factors in this Report for other factors that could cause future events to differ, perhaps materially, from those anticipated in these forward-looking statements.

For additional information on financial results for the fourth quarter of 2018, see the Selected Quarterly Financial Data section in the Statistical Information (Unaudited) section of Item 8 of this Report.

For full year 2019 compared to full year 2018, we expect:
- Average loan growth to be between 3% and 4%;
- Revenue growth on the higher end of low-single digits, on a percentage basis;
- Noninterest expense to increase on the lower end of low-single digits, on a percentage basis; and
- The effective tax rate to be approximately 17%.

For the first quarter of 2019 compared to the fourth quarter of 2018, we expect:
- Average loans to be stable;
- Net interest income to be stable, reflecting two fewer days in the quarter;
- Fee income to decrease by low-single digits, on a percentage basis. Fee income consists of asset management, consumer services, corporate services, residential mortgage and service charges on deposits;
- Other noninterest income to be between $275 million and $325 million, excluding net securities and Visa activity;
- Noninterest expense to remain stable; and
- Provision for credit losses to be between $125 million and $175 million.

CONSOLIDATED INCOME STATEMENT REVIEW
Our Consolidated Income Statement is presented in Item 8 of this Report.

Net income for 2018 was $5.3 billion, or $10.71 per diluted common share, a decrease of 1% compared with $5.4 billion, or $10.36 per diluted common share, for 2017. The decrease was primarily driven by higher income tax expense in 2018 which more than offset a 5% increase in total revenue and a 1% decrease in noninterest expense. Income tax expense in 2017 reflected an income tax benefit of $1.2 billion from new federal tax legislation primarily attributable to revaluation of net deferred tax liabilities at the lower statutory tax rate.

Net Interest Income

Table 1: Summarized Average Balances and Net Interest Income (a)

Year ended December 31 Dollars in millions	2018 Average Balances	Average Yields/ Rates	Interest Income/ Expense	2017 Average Balances	Average Yields/ Rates	Interest Income/ Expense
Assets						
Interest-earning assets						
Investment securities	$78,784	2.91 %	$2,289	$75,057	2.74 %	$2,059
Loans	223,278	4.33 %	9,667	217,271	3.86 %	8,390
Interest-earning deposits with banks	20,603	1.84 %	379	24,043	1.11 %	267
Other	8,093	4.47 %	362	8,983	3.48 %	313
Total interest-earning assets/interest income	$330,758	3.84 %	12,697	$325,354	3.39 %	11,029
Liabilities						
Interest-bearing liabilities						
Interest-bearing deposits	$186,361	.66 %	1,229	$179,447	.35 %	623
Borrowed funds	59,306	2.75 %	1,632	56,889	1.90 %	1,083
Total interest-bearing liabilities/interest expense	$245,667	1.16 %	2,861	$236,336	.72 %	1,706
Net interest income/margin (Non-GAAP)		2.97 %	9,836		2.87 %	9,323
Taxable-equivalent adjustments			(115)			(215)
Net interest income (GAAP)			$9,721			$9,108

(a) Interest income calculated as taxable-equivalent interest income. To provide more meaningful comparisons of interest income and yields for all interest-earning assets, as well as net interest margins, we use interest income on a taxable-equivalent basis in calculating average yields and net interest margins by increasing the interest income earned on tax-exempt assets to make it fully equivalent to interest income earned on taxable investments. This adjustment is not permitted under GAAP on the Consolidated Income Statement. For more information, see Reconciliation of Taxable-Equivalent Net Interest Income (Non-GAAP) in the Statistical Information (Unaudited) section in Item 8 of this Report.

Changes in net interest income and margin result from the interaction of the volume and composition of interest-earning assets and related yields, interest-bearing liabilities and related rates paid, and noninterest-bearing sources of funding. See the Statistical Information (Unaudited) – Average Consolidated Balance Sheet And Net Interest Analysis and Analysis Of Year-To-Year Changes In Net Interest Income in Item 8 of this Report.

Net interest income increased $613 million, or 7%, in 2018 compared with 2017 due to higher loan and securities yields and balances partially offset by increases in deposit and borrowing costs. Net interest margin increased in the comparison reflecting the impact of higher interest rates.

Average investment securities increased $3.7 billion, or 5%, reflecting net purchases of agency residential mortgage-backed securities of $4.0 billion and U.S. Treasury and government agency securities of $3.3 billion, partially offset by declines of $1.1 billion in both commercial mortgage-backed securities and other securities. Average investment securities increased to 24% of average interest-earning assets in 2018 compared to 23% in 2017.

Average loans grew $6.0 billion, or 3%, driven by an increase in average commercial lending of $5.2 billion reflecting strong growth in our Corporate Banking, Business Credit and Equipment Finance businesses in our Corporate & Institutional Banking segment.

Average consumer lending increased $.8 billion in 2018 compared to 2017 as growth in residential real estate, automobile and credit card loans was partially offset by declines in home equity and education loans. Lower home equity loans reflected paydowns and payoffs exceeding new originated volume. In addition, run-off in the non-strategic consumer loan portfolios of brokered home equity and government guaranteed education loans contributed to the declines. Average loans represented 68% of average interest-earning assets in 2018 compared to 67% in 2017.

Average interest-bearing deposits grew $6.9 billion, or 4%, reflecting overall deposit and customer growth. The increase also reflected a shift from noninterest-bearing deposits, which declined $2.3 billion, or 3%, to interest-bearing deposits as deposit rates have risen. Within average interest-bearing deposits, average savings deposits increased $9.2 billion, due in part to a shift to relationship-based savings products from money market deposits, which decreased $6.0 billion. Additionally, average interest-bearing demand deposits grew $3.6 billion. Average interest-bearing deposits remained stable at 76% of average interest-bearing liabilities in 2018 and 2017.

Further details regarding average loans and deposits are included in the Business Segments Review section of this Item 7.

Average borrowed funds increased $2.4 billion, or 4%, primarily due to higher bank notes and senior debt of $2.3 billion and Federal Home Loan Bank borrowings of $1.1 billion, partially offset by a decline in subordinated debt of $1.0 billion. See the Consolidated Balance Sheet Review portion of this Item 7 for additional detail on the level and composition of borrowed funds.

Noninterest Income

Table 2: Noninterest Income

Year ended December 31			Change	
Dollars in millions	2018	2017	$	%
Noninterest income				
Asset management	$1,825	$1,942	$(117)	(6)%
Consumer services	1,502	1,415	87	6 %
Corporate services	1,849	1,742	107	6 %
Residential mortgage	316	350	(34)	(10)%
Service charges on deposits	714	695	19	3 %
Other	1,205	1,077	128	12 %
Total noninterest income	$7,411	$7,221	$190	3 %

Noninterest income as a percentage of total revenue was 43% for 2018 and 44% for 2017.

Asset management revenue decreased in the comparison reflecting a $254 million fourth quarter 2017 flow through impact of federal tax legislation on our equity investment in BlackRock. This decline was partially offset by higher earnings from our equity investment in BlackRock which benefited from the lower federal statutory income tax rate and by stronger average equity markets during 2018. PNC's discretionary client assets under management decreased to $148 billion at December 31, 2018 compared with $151 billion at December 31, 2017 primarily due to lower equity markets as of December 31, 2018.

Consumer service fees increased in the comparison primarily due to growth in debit card fees and credit card fees, net of rewards, which increased $32 million and $23 million, respectively, reflecting higher transaction volume and customer growth. Brokerage revenue increased $38 million resulting from growth in average brokerage assets under management.

Corporate service fees were higher primarily driven by growth in treasury management product revenue of $70 million and higher merger and acquisition advisory fees of $42 million. These increases were partially offset by a decline in revenue from commercial mortgage banking activities driven by a $27 million lower benefit from commercial mortgage servicing rights valuation, net of economic hedge.

Residential mortgage revenue declined due to lower loan sales revenue of $61 million driven by lower gain on sales margins as a result of increased competition, a shift in product mix to purchases from refinancing and lower loan origination volume. This decrease was partially offset by negative residential mortgage servicing rights valuation adjustments, net of economic hedge, of $30 million in 2017, which included a negative adjustment of $71 million in the fourth quarter of 2017 for residential mortgage servicing rights fair value assumption updates. The valuation adjustment benefit in 2018 was insignificant.

Service charges on deposits increased reflecting higher consumer transaction volumes and product enhancements.

Other noninterest income increased in the comparison largely attributable to the impact of negative derivative fair value adjustments related to Visa Class B common shares of $280 million in 2017, including $248 million in the fourth quarter of 2017 primarily related to the extension of anticipated timing of litigation resolution, compared with positive adjustments of $35 million in 2018.

These increases were partially offset by the impact of a fourth quarter 2017 benefit of $119 million for appreciation in value of BlackRock common stock used to fund PNC's fourth quarter 2017 contribution to the PNC Foundation. In addition, the comparison reflected a $28 million decline in revenue from equity investments, which included the impact of first quarter 2017 positive valuation adjustments related to the Volcker Rule provisions of the Dodd-Frank

Act.

In the first quarter of 2018, and in connection with the commercial and vendor finance business we acquired in 2017, we reclassified operating lease income in Other noninterest income of $121 million in 2017 and $85 million in 2016 to Corporate services noninterest income on the Consolidated Income Statement. Operating lease income was $130 million in 2018.

Other noninterest income typically fluctuates from period to period depending on the nature and magnitude of transactions completed. Further details regarding our customer-related trading activities are included in the Market Risk Management – Customer-Related Trading Risk portion of the Risk Management section of this Item 7. Further details regarding private and other equity investments are included in the Market Risk Management – Equity and Other Investment Risk section, and further details regarding gains or losses related to our equity investment in BlackRock are included in the Business Segments Review section of this Item 7.

Provision for Credit Losses
The provision for credit losses was $408 million in 2018 compared to $441 million in 2017, reflecting a lower provision for commercial loans, partially offset by a higher provision for consumer loans.

The Credit Risk Management portion of the Risk Management section of this Item 7 includes additional information regarding factors impacting the provision for credit losses.

Noninterest Expense
Table 3: Noninterest Expense

Year ended December 31			Change	
Dollars in millions	2018	2017	$	%
Noninterest expense				
Personnel	$5,471	$5,268	$203	4 %
Occupancy	818	868	(50)	(6)%
Equipment	1,103	1,065	38	4 %
Marketing	285	244	41	17 %
Other	2,619	2,953	(334)	(11)%
Total noninterest expense	$10,296	$10,398	$(102)	(1)%

Noninterest expense decreased in 2018 compared to 2017 as ongoing business investments, including technology and staffing, and higher levels of business activity were more than offset by the $502 million impact of certain fourth quarter 2017 items described in the next paragraph.

Higher personnel expense reflected higher staffing levels, an increase in the minimum hourly pay rate for eligible employees, enhanced employee benefits and higher variable compensation related to revenue growth, partially offset by the fourth quarter 2017 impact of $105 million for employee cash payments and pension account credits. Marketing expense was higher in support of business expansion. The decline in other noninterest expense reflected the fourth quarter 2017 impact of a $200 million contribution of BlackRock common stock to the PNC Foundation. Additionally, fourth quarter 2017 included $197 million of charges for real estate dispositions and exits, which were primarily within other noninterest expense.

During 2018, we completed actions and achieved our 2018 continuous improvement program savings goal of $250 million, which funded a portion of our strategic investments. In 2019, we have a goal of $300 million in cost savings through our continuous improvement program, which we expect will continue to partially fund our ongoing business investments.

Effective Income Tax Rate
The effective income tax rate was 16.8% for 2018 compared with 1.9% for 2017. In the fourth quarter of 2017, an income tax benefit of $1.2 billion was recognized as a result of federal tax legislation and was primarily attributable to the revaluation of net deferred tax liabilities at the lower statutory tax rate of 21%, which became effective January 1, 2018. For additional information on our accounting related to the new federal tax legislation, see Note 17 Income Taxes in the Notes To Consolidated Financial Statements included in Item 8 of this Report.

The effective tax rate is generally lower than the statutory rate primarily due to tax credits we receive from our investments in low income housing and new markets investments, as well as earnings on other tax exempt investments.

Additional information regarding our effective tax rate is included in the Reconciliation of Statutory and Effective Tax Rates table in Note 17 Income Taxes in Item 8 of this Report.

CONSOLIDATED BALANCE SHEET REVIEW

Table 4: Summarized Balance Sheet Data

Dollars in millions	December 31 2018	December 31 2017	Change $	Change %
Assets				
Interest-earning deposits with banks	$10,893	$28,595	$(17,702)	(62)%
Loans held for sale	994	2,655	(1,661)	(63)%
Investment securities	82,701	76,131	6,570	9 %
Loans	226,245	220,458	5,787	3 %
Allowance for loan and lease losses	(2,629)	(2,611)	(18)	(1)%
Mortgage servicing rights	1,983	1,832	151	8 %
Goodwill	9,218	9,173	45	—
Other, net	52,910	44,535	8,375	19 %
Total assets	$382,315	$380,768	$1,547	—
Liabilities				
Deposits	$267,839	$265,053	$2,786	1 %
Borrowed funds	57,419	59,088	(1,669)	(3)%
Other	9,287	9,042	245	3 %
Total liabilities	334,545	333,183	1,362	—
Equity				
Total shareholders' equity	47,728	47,513	215	—
Noncontrolling interests	42	72	(30)	(42)%
Total equity	47,770	47,585	185	—
Total liabilities and equity	$382,315	$380,768	$1,547	—

The summarized balance sheet data in Table 4 is based upon our Consolidated Balance Sheet in Item 8 of this Report. Our balance sheet at December 31, 2018 increased slightly compared to December 31, 2017 and we maintained strong capital and liquidity positions.

- Total assets increased as higher short-term investments, investment securities and loans were substantially offset by lower interest-earning deposits with banks.
- Total liabilities increased due to deposit growth, partially offset by lower borrowed funds.
- Total equity increased slightly as higher retained earnings was mostly offset by share repurchases and lower accumulated other comprehensive income (AOCI) largely related to net unrealized securities losses.

The following discussion provides additional information about the major components of our balance sheet. Information regarding our capital and regulatory compliance is included in the Liquidity and Capital Management portion of the Risk Management section of this Item 7 and in Note 18 Regulatory Matters in our Notes To Consolidated Financial Statements included in this Report.

Loans

Table 5: Loans

Dollars in millions	December 31 2018	December 31 2017	Change $	Change %
Commercial lending				
Commercial	$ 116,834	$ 110,527	$6,307	6 %
Commercial real estate	28,140	28,978	(838)	(3)%
Equipment lease financing	7,308	7,934	(626)	(8)%
Total commercial lending	152,282	147,439	4,843	3 %
Consumer lending				
Home equity	26,123	28,364	(2,241)	(8)%
Residential real estate	18,657	17,212	1,445	8 %

Automobile	14,419	12,880	1,539	12 %
Credit card	6,357	5,699	658	12 %
Education	3,822	4,454	(632)	(14)%
Other consumer	4,585	4,410	175	4 %
Total consumer lending	73,963	73,019	944	1 %
Total loans	$ 226,245	$ 220,458	$5,787	3 %

Loans at December 31, 2018 reflected growth in both commercial and consumer lending compared to December 31, 2017.

Commercial lending increased driven by growth in our Corporate Banking and Business Credit businesses partially offset by lower loan balances in the Real Estate business within our Corporate & Institutional Banking segment. In Corporate Banking, commercial loan growth in asset-backed finance securitizations as well as increased lending to large and midsized corporate clients was partially offset by lower public finance lending. Growth in Business Credit was driven by higher utilization and new originations. Balances in the Real Estate business declined due to project loan payoffs, partially offset by higher commercial mortgage balances.

For commercial loans by industry and commercial real estate loans by geography and property type, see Loan Portfolio Characteristics and Analysis in the Credit Risk Management portion of the Risk Management section in this Item 7.

Consumer lending balances increased as growth in automobile loans, residential real estate loans and credit card balances were partially offset by lower home equity and education loans.

The growth in automobile loans was primarily due to higher indirect auto loans including continued new loan growth in the Southeast markets and expansion to franchised dealers in new markets. Residential real estate loans increased primarily as a result of originations of nonconforming loans, which are loans that do not meet government agency standards as a result of exceeding agency conforming loan limits. Credit card balances increased as we continued to focus on our long-term objective of deepening penetration within our existing customer base.

Home equity loans declined as paydowns and payoffs exceeded new originated volume. In addition, the declines in both home equity and education loans included the continued runoff in our non-strategic brokered home equity and government guaranteed education loan portfolios.

For information on home equity and residential real estate loans, including by geography and lien priority, and automobile loans, see Loan Portfolio Characteristics and Analysis in the Credit Risk Management portion of the Risk Management section in this Item 7.

For additional information regarding our loan portfolio, see the Credit Risk Management portion of the Risk Management section in this Item 7 and Note 1 Accounting Policies, Note 3 Asset Quality and Note 4 Allowance for Loan and Lease Losses in our Notes To Consolidated Financial Statements included in Item 8 of this Report.

Investment Securities

Investment securities of $82.7 billion at December 31, 2018 increased $6.6 billion compared to December 31, 2017, driven by net purchases of agency residential mortgage-backed securities of $4.8 billion and U.S. Treasury and government agencies securities of $3.6 billion. These increases were partially offset by the reclassification of $.6 billion of available for sale securities, primarily money market funds, to equity investments as part of the adoption of ASU 2016-01. See the Recently Adopted Accounting Standards portion of Note 1 Accounting Policies in Item 8 of this Report for additional detail on the adoption of this ASU.

The level and composition of the investment securities portfolio fluctuates over time based on many factors including market conditions, loan and deposit growth, and balance sheet management activities. We manage our investment securities portfolio to optimize returns, while providing a reliable source of liquidity for our banking and other activities, considering LCR and other internal and external guidelines and constraints.

Table 6: Investment Securities

	December 31, 2018		December 31, 2017		Ratings (a) As of December 31, 2018				
Dollars in millions	Amortized Cost	Fair Value	Amortized Cost	Fair Value	AAA/ AA	A	BBB	BB and Lower	No Rating
U.S. Treasury and government agencies	$18,862	$18,863	$15,173	$15,286	100 %				
Agency residential mortgage-backed	45,153	44,407	40,037	39,847	100 %				
Non-agency residential mortgage-backed	2,076	2,365	2,610	2,932	12 %	2 %	2 %	50 %	34 %
	2,773	2,720	2,367	2,315	100 %				

Agency commercial mortgage-backed									
Non-agency commercial mortgage-backed (b)	3,177	3,145	3,141	3,161	86 %	6 %			8 %
Asset-backed (c)	5,115	5,155	5,531	5,598	88 %	3 %	4 %	5 %	
Other debt (d)	5,670	5,753	6,279	6,459	74 %	15 %	8 %		3 %
Other (e)			587	585					
Total investment securities (f)	$82,826	$82,408	$75,725	$76,183	95 %	1 %	1 %	2 %	1 %

(a) Ratings percentages allocated based on amortized cost.

(b) Collateralized primarily by retail properties, office buildings, lodging properties and multi-family housing.

(c) Collateralized primarily by corporate debt, government guaranteed education loans and other consumer credit products.

(d) Includes state and municipal securities.

(e) On January 1, 2018, $.6 billion of available for sale securities, primarily money market funds, were reclassified to equity investments in accordance with the adoption of ASU 2016-01. See the Recently Adopted Accounting Standards portion of Note 1 Accounting Policies in the Notes to Consolidated Financial Statements in Item 8 of this Report for additional detail.

(f) Includes available for sale and held to maturity securities, which are recorded on our balance sheet at fair value and amortized cost, respectively.

Table 6 presents the distribution of our total investment securities portfolio by amortized cost and fair value, as well as by credit rating. The relationship of fair value to amortized cost at December 31, 2018 compared to December 31, 2017 primarily reflected the impact of higher interest rates on the valuation of fixed rate securities. We have included credit ratings information because we believe that the information is an indicator of the degree of credit risk to which we are exposed, which could affect our risk-weighted assets and, therefore, our risk-based regulatory capital ratios under the regulatory capital rules. Changes in credit ratings classifications could indicate increased or decreased credit risk and could be accompanied by a reduction or increase in the fair value of our investment securities portfolio.

The duration of investment securities was 3.4 years at December 31, 2018. We estimate that at December 31, 2018 the effective duration of investment securities was 3.5 years for an immediate 50 basis points parallel increase in interest rates and 3.2 years for an immediate 50 basis points parallel decrease in interest rates. Comparable amounts at December 31, 2017 for the effective duration of investment securities were 3.4 years and 3.0 years, respectively.

Based on expected prepayment speeds, the weighted-average expected maturity of the investment securities portfolio (excluding other) was 5.3 years at December 31, 2018 compared to 5.2 years at December 31, 2017.

Table 7: Weighted-Average Expected Maturities of Mortgage and Asset-Backed Debt Securities

December 31, 2018	Years
Agency residential mortgage-backed	6.3
Non-agency residential mortgage-backed	6.0
Agency commercial mortgage-backed	4.1
Non-agency commercial mortgage-backed	2.6
Asset-backed	2.2

Additional information regarding our investment securities is included in Note 5 Investment Securities and Note 6 Fair Value in the Notes To Consolidated Financial Statements included in this Report.

Funding Sources

Table 8: Details of Funding Sources

Dollars in millions	December 31 2018	December 31 2017	Change $	Change %
Deposits				
Noninterest-bearing	$73,960	$79,864	$(5,904)	(7)%
Interest-bearing				
Money market	53,368	59,735	(6,367)	(11)%
Demand	65,211	61,213	3,998	7 %
Savings	56,793	46,980	9,813	21 %
Time deposits	18,507	17,261	1,246	7 %
Total interest-bearing deposits	193,879	185,189	8,690	5 %
Total deposits	267,839	265,053	2,786	1 %
Borrowed funds				
Federal Home Loan Bank (FHLB) borrowings	21,501	21,037	464	2 %
Bank notes and senior debt	25,018	28,062	(3,044)	(11)%
Subordinated debt	5,895	5,200	695	13 %
Other	5,005	4,789	216	5 %
Total borrowed funds	57,419	59,088	(1,669)	(3)%
Total funding sources	$325,258	$324,141	$1,117	—

Total deposits increased in 2018 over 2017 as growth in interest-bearing deposits was partially offset by a decline in noninterest-bearing deposits. Noninterest-bearing deposits decreased mainly due to the impact of rising interest rates, reflecting a shift of primarily commercial noninterest-bearing deposits to interest-bearing. The increase in interest-bearing deposits was driven by growth in savings deposits reflecting, in part, a shift from consumer money market to relationship-based savings products.

Borrowed funds decreased in the comparison as a decline in bank notes and senior debt was partially offset by increases in subordinated debt and FHLB borrowings. The level and composition of borrowed funds fluctuates over time based on many factors including market conditions, loan, investment securities and deposit growth and capital considerations. We manage our borrowed funds to provide a reliable source of liquidity for our banking and other activities, considering LCR and other internal and external guidelines and constraints.

See the Liquidity and Capital Management portion of the Risk Management section of this Item 7 for additional information regarding our 2018 liquidity and capital activities.

Shareholders' Equity
Total shareholders' equity was $47.7 billion at December 31, 2018, an increase of $.2 billion compared to December 31, 2017. Higher retained earnings, which reflected net income of $5.3 billion reduced by $1.8 billion of common and preferred dividends, was partially offset by common share repurchases of $2.8 billion and lower AOCI of $.6 billion primarily due to net unrealized securities losses.

Common shares outstanding were 457 million at December 31, 2018 and 473 million at December 31, 2017 as repurchases of 19.9 million shares during 2018 were partially offset by share issuances from treasury stock related to warrants exercised and stock-based compensation activity.

BUSINESS SEGMENTS REVIEW

We have four reportable business segments:
- Retail Banking
- Corporate & Institutional Banking
- Asset Management Group
- BlackRock

Business segment results and a description of each business are included in Note 22 Segment Reporting included in the Notes To Consolidated Financial Statements in Item 8 of this Report. Certain amounts included in this Business Segments Review differ from those amounts shown in Note 22, primarily due to the presentation in this Item 7 of business net interest revenue on a taxable-equivalent basis. Note 22 presents results of businesses for 2018, 2017 and 2016.
Net interest income in business segment results reflects our internal funds transfer pricing methodology. Assets receive a funding charge and liabilities and capital receive a funding credit based on a transfer pricing methodology that incorporates product repricing characteristics, tenor and other factors.

Total business segment financial results differ from total consolidated net income. The impact of these differences is reflected in the "Other" category as shown in Table 99 in Note 22 Segment Reporting in Item 8 of this Report. "Other" includes residual activities that do not meet the criteria for disclosure as a separate reportable business, such as asset and liability management activities including net securities gains or losses, other-than-temporary impairment of investment securities, certain trading activities, certain non-strategic runoff consumer loan portfolios, private equity investments, intercompany eliminations, certain corporate overhead, tax adjustments that are not allocated to business segments, gains or losses related to BlackRock transactions, integration costs, exited businesses, and differences between business segment performance reporting and financial statement reporting (GAAP), including the presentation of net income attributable to noncontrolling interests as the segments' results exclude their portion of net income attributable to noncontrolling interests.

In the fourth quarter of 2018, we updated our internal management reporting processes relating to our segment reporting disclosures. Certain expenses that were previously recorded within "Other" were reclassified to our reportable segments. These expenses largely related to items that were previously considered corporate expenses, but were either closely aligned to processes and revenue functions within our business segments or were an allocation of expenses that the business segment would have incurred if it operated on a standalone basis. These reclassifications were retrospectively applied to the periods presented in this Business Segments Review and in Note 22 Segment Reporting in Item 8 of this Report. Additionally, certain fourth quarter 2017 net income tax benefits that were previously reported in "Other" in the fourth quarter of 2017 were reclassified within that period, in order to align the accounting of certain tax positions with the business segments that recorded the underlying activity.

Retail Banking

Retail Banking's core strategy is to acquire and retain customers who maintain their primary checking and transaction relationships with us. We seek to deepen relationships by meeting the broad range of our customers' financial needs with savings, liquidity, lending, investment and retirement solutions. A strategic priority for us is to differentiate the customer experience and drive transformation and automation. A key element of our strategy is to expand the use of lower-cost alternative distribution channels, with an emphasis on digital capabilities, while continuing to optimize the traditional branch network. In addition, we have a disciplined process to continually improve the engagement of both our employees and customers, which is a strong driver of customer growth, retention and relationship expansion. In 2018, we launched our national retail digital strategy designed to grow customers with digitally-led banking and an ultra-thin branch network in markets outside of our retail branch network.

Table 9: Retail Banking Table
(Unaudited)

Year ended December 31			Change	
Dollars in millions, except as noted	2018	2017	$	%
Income Statement				
Net interest income	$5,119	$4,626	$493	11 %
Noninterest income	2,631	2,236	395	18 %
Total revenue	7,750	6,862	888	13 %
Provision for credit losses	373	347	26	7 %
Noninterest expense	5,978	5,746	232	4 %
Pretax earnings	1,399	769	630	82 %
Income taxes	335	322	13	4 %
Earnings	$1,064	$447	$617	138 %
Average Balance Sheet				
Loans held for sale	$636	$799	$(163)	(20)%
Loans				
Consumer				
Home equity	$23,991	$25,278	$(1,287)	(5)%
Automobile	13,827	12,407	1,420	11 %
Education	4,135	4,832	(697)	(14)%
Credit cards	5,838	5,248	590	11 %
Other	1,843	1,773	70	4 %
Total consumer	49,634	49,538	96	—
Commercial and commercial real estate	10,383	10,767	(384)	(4)%
Residential mortgage	13,985	12,238	1,747	14 %
Total loans	$74,002	$72,543	$1,459	2 %
Total assets	$89,739	$88,663	$1,076	1 %
Deposits				
Noninterest-bearing demand	$30,670	$29,788	$882	3 %
Interest-bearing demand	42,042	40,958	1,084	3 %
Money market	29,798	36,592	(6,794)	(19)%
Savings	47,019	38,802	8,217	21 %
Certificates of deposit	12,007	13,135	(1,128)	(9)%
Total deposits	$161,536	$159,275	$2,261	1 %
Performance Ratios				
Return on average assets	1.19 %	.50 %		
Noninterest income to total revenue	34 %	33 %		
Efficiency	77 %	84 %		

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Year ended December 31			Change	
Dollars in millions, except as noted	2018	2017	$	%
Supplemental Noninterest Income Information				
Consumer services	$1,128	$1,079	$49	5 %
Brokerage	$350	$312	$38	12 %
Residential mortgage	$316	$350	$(34)	(10)%
Service charges on deposits	$688	$668	$20	3 %
Residential Mortgage Information				
Residential mortgage servicing statistics (in billions, except as noted) (a)				
Serviced portfolio balance (b)	$125	$127	$(2)	(2)%
Serviced portfolio acquisitions	$12	$19	$(7)	(37)%
MSR asset value (b)	$1.3	$1.2	$.1	8 %
MSR capitalization value (in basis points) (b)	100	92	8	9 %
Servicing income: (in millions)				
Servicing fees, net (c)	$181	$187	$(6)	(3)%
Mortgage servicing rights valuation, net of economic hedge	$3	$(30)	$33	*
Residential mortgage loan statistics				
Loan origination volume (in billions)	$7.4	$9.0	$(1.6)	(18)%
Loan sale margin percentage	2.41 %	2.80 %		
Percentage of originations represented by:				
Purchase volume (d)	67 %	53 %		
Refinance volume	33 %	47 %		
Other Information (b)				
Customer-related statistics (average)				
Non-teller deposit transactions (e)	55 %	53 %		
Digital consumer customers (f)	66 %	62 %		
Credit-related statistics				
Nonperforming assets (g)	$1,126	$1,129	$(3)	—
Net charge-offs	$420	$371	$49	13 %
Other statistics				
ATMs	9,162	9,051	111	1 %
Branches (h)	2,372	2,459	(87)	(4)%
Brokerage account client assets (in billions) (i)	$47	$49	$(2)	(4)%

* - Not Meaningful

(a) Represents mortgage loan servicing balances for third parties and the related income.

(b) Presented as of December 31, except for customer-related statistics, which are averages for the year ended, and net charge-offs, which are for the year ended.

(c) Servicing fees net of impact of decrease in MSR value due to passage of time, including the impact from both regularly scheduled loan prepayments and loans that were paid down or paid off during the period.

(d) Mortgages with borrowers as part of residential real estate purchase transactions.

(e) Percentage of total consumer and business banking deposit transactions processed at an ATM or through our mobile banking application.

(f) Represents consumer checking relationships that process the majority of their transactions through non-teller channels.

(g) Includes nonperforming loans of $1.1 billion at both December 31, 2018 and 2017.

(h) Excludes stand-alone mortgage offices and satellite offices (e.g., drive-ups, electronic branches and retirement centers) that provide limited products and/or services.

(i) Includes cash and money market balances.

Retail Banking earned $1.1 billion in 2018 compared with $447 million in 2017. The increase in earnings was driven by higher net interest income and noninterest income, partially offset by increases in noninterest expense and provision for credit losses. Earnings in 2018 also benefited from the lower statutory federal income tax rate.

Net interest income increased primarily due to wider interest rate spreads on the value of deposits.

The increase in noninterest income was largely attributable to the impact of negative derivative fair value adjustments related to Visa Class B common shares of $280 million in 2017, including $248 million in the fourth quarter of 2017 primarily related to the extension of anticipated timing of litigation resolution, compared with positive fair value adjustments of $35 million in 2018. Higher noninterest income also reflected growth in consumer service fees, including higher debit and credit card fees, as well as higher brokerage fees and service charges on deposits.

These increases in noninterest income were partially offset by lower residential mortgage noninterest income, reflecting a decline in loan sales revenue, as well as lower servicing revenue. The decline in loan sales revenue reflected lower gain on sales margins as a result of increased competition, a shift in product mix to purchases from refinancing, and lower loan origination volume. The comparison also included a benefit in 2018 from residential mortgage servicing rights valuation, net of economic hedge, compared with a negative valuation adjustment in 2017, which included a fourth quarter 2017 negative adjustment of $71 million for residential mortgage servicing rights fair value assumption updates.

Provision for credit losses increased in 2018 compared to 2017 primarily due to portfolio growth in credit card and unsecured installment loans partially offset by declines in the home equity portfolio.

Higher noninterest expense primarily resulted from increases in personnel expense, non-credit losses, continued investments in technology, risk and compliance expense, and marketing activity. Higher personnel expense included an increase in the minimum hourly pay rate for eligible employees.

The deposit strategy of Retail Banking is to remain disciplined on pricing and focused on growing and retaining relationship-based balances, executing on market-specific deposit growth strategies and providing a source of low-cost funding and liquidity to PNC. During 2018, average total deposits increased compared to 2017, as both interest-bearing and noninterest-bearing demand deposits increased. Savings deposits grew, reflecting, in part, a shift from money market deposits to relationship-based savings products. Certificates of deposit declined due to the net runoff of maturing accounts.

Retail Banking average total loans grew in 2018 compared with 2017:

- Average residential mortgages increased primarily as a result of growth in nonconforming residential mortgage loans.
- Average automobile loans, increased primarily due to strong new indirect auto loan volumes, including in our Southeast and new markets, as well as growth in direct auto loans.
- Average credit card balances increased as we continued to focus on our long-term objective of deepening penetration within our existing customer base.
- Average home equity loans decreased as paydowns and payoffs on loans exceeded new originated volume.
- Average education loans decreased driven by a decline in the runoff portfolio of government guaranteed education loans.
- Average commercial and commercial real estate loans declined as paydowns and payoffs on loans exceeded new volume.

Retail Banking continues to enhance the customer experience with refinements to product and service offerings that drive value for consumers and small businesses. We are focused on meeting the financial needs of our customers by providing a broad range of liquidity, banking and investment products. In 2018, Retail Banking launched its national retail digital strategy by offering a high yield savings account in markets outside of our existing retail branch network and opened a retail location in Kansas City.

Retail Banking continued to focus on its strategy of transforming the customer experience through transaction migration, branch network and home lending transformations, and multi-channel engagement and service strategies.

- Approximately 66% of consumer customers used non-teller channels for the majority of their transactions in 2018 compared with 62% in 2017.
- Deposit transactions via ATM and mobile channels increased to 55% of total deposit transactions from 53% in 2017.

Retail Banking continued to make progress on its multi-year initiative to redesign the home lending process by integrating mortgage and home equity lending into a common platform to enhance product capability and improve speed of delivery and convenience. We implemented a new mortgage origination system in 2017 and converted home equity loans to the new servicing platform in 2018. Both residential mortgage and home equity loans are now serviced on a single platform.

Corporate & Institutional Banking

Corporate & Institutional Banking's strategy is to be the leading relationship-based provider of traditional banking products and services to its customers through the economic cycles. We aim to grow our market share and drive higher returns by delivering value-added solutions that help our clients better run their organizations, all while maintaining prudent risk and expense management. We continue to focus on building client relationships where the risk-return profile is attractive.

Table 10: Corporate & Institutional Banking Table
(Unaudited)

Year ended December 31			Change	
Dollars in millions, except as noted	2018	2017	$	%
Income Statement				
Net interest income	$3,637	$3,551	$86	2 %
Noninterest income	2,406	2,271	135	6 %
Total revenue	6,043	5,822	221	4 %
Provision for credit losses	85	160	(75)	(47)%
Noninterest expense	2,706	2,554	152	6 %
Pretax earnings	3,252	3,108	144	5 %
Income taxes	744	675	69	10 %
Earnings	$2,508	$2,433	$75	3 %
Average Balance Sheet				
Loans held for sale	$739	$898	$(159)	(18)%
Loans				
Commercial	$103,285	$96,937	$6,348	7 %
Commercial real estate	26,569	27,372	(803)	(3)%
Equipment lease financing	7,437	7,619	(182)	(2)%
Total commercial lending	137,291	131,928	5,363	4 %
Consumer	42	233	(191)	(82)%
Total loans	$137,333	$132,161	$5,172	4 %
Total assets	$154,119	$148,414	$5,705	4 %
Deposits				
Noninterest-bearing demand	$44,099	$47,264	$(3,165)	(7)%
Money market	24,060	22,464	1,596	7 %
Other	20,250	16,389	3,861	24 %
Total deposits	$88,409	$86,117	$2,292	3 %
Performance Ratios				
Return on average assets	1.63 %	1.64 %		
Noninterest income to total revenue	40 %	39 %		
Efficiency	45 %	44 %		
Other Information				
Consolidated revenue from: (a)				
Treasury Management (b)	$1,779	$1,516	$263	17 %
Capital Markets (b)	$1,088	$1,017	$71	7 %
Commercial mortgage banking activities:				
Commercial mortgage loans held for sale (c)	$107	$115	$(8)	(7)%
Commercial mortgage loan servicing income (d)	247	228	19	8 %
Commercial mortgage servicing rights valuation, net of economic hedge (e)	27	54	(27)	(50)%
Total	$381	$397	$(16)	(4)%

Commercial mortgage servicing rights asset value (f)	$726	$668	$58	9 %
Average Loans by C&IB Business				
Corporate Banking	$58,611	$55,701	$2,910	5 %
Real Estate	37,571	38,235	(664)	(2)%
Business Credit	17,411	15,804	1,607	10 %
Equipment Finance	14,531	13,408	1,123	8 %
Commercial Banking	6,984	7,028	(44)	(1)%
Other	2,225	1,985	240	12 %
Total average loans	$137,333	$132,161	$5,172	4 %
Credit-related statistics				
Nonperforming assets (f) (g)	$377	$531	$(154)	(29)%
Net charge-offs	$10	$93	$(83)	(89)%

(a) Represents consolidated amounts. See the additional revenue discussion regarding treasury management, capital markets-related products and services, and commercial mortgage banking activities in the Product Revenue section of this Corporate & Institutional Banking section.
(b) Includes amounts reported in net interest income and noninterest income.
(c) Includes other noninterest income for valuations on commercial mortgage loans held for sale and related commitments, derivative valuations, originations fees, gains on sale of loans held for sale and net interest income on loans held for sale.
(d) Includes net interest income and noninterest income (primarily in corporate service fees) from loan servicing net of reduction in commercial mortgage servicing rights due to amortization expense and payoffs. Commercial mortgage servicing rights valuation, net of economic hedge is shown separately.
(e) Amounts are reported in corporate service fees.
(f) As of December 31.
(g) Includes nonperforming loans of $.3 billion and $.5 billion at December 31, 2018 and 2017, respectively.

Corporate & Institutional Banking earned $2.5 billion in 2018 compared to $2.4 billion in 2017. The increase was primarily due to higher revenue and lower provision for credit losses, mostly offset by higher noninterest expense and income tax expense, as the 2018 impact of a lower statutory rate was more than offset by a 2017 benefit from federal tax legislation.

Net interest income increased in the comparison, primarily due to wider interest rate spreads on the value of deposits, as well as higher average loan and deposit balances, partially offset by narrower interest rate spreads on the value of loans.

Growth in noninterest income in the comparison was primarily driven by higher treasury management product revenue and higher capital markets-related revenue, including higher merger and acquisition advisory fees and revenue from customer-related derivative and foreign exchange services. Higher gains on asset sales also contributed to noninterest income growth in 2018. These increases were partially offset by a lower benefit from commercial mortgage servicing rights valuation, net of economic hedge, and decreased revenue from credit valuations on customer-related derivative activities.

Credit quality for 2018 was strong as nonperforming assets and net charge-offs declined compared with 2017. The decrease in provision for credit losses in the comparison reflected improved credit quality.

Noninterest expense increased in the comparison largely due to investments in strategic initiatives and variable costs associated with increased business activity.

Average loans increased compared with 2017 due to strong growth in Corporate Banking, Business Credit and Equipment Finance:

- Corporate Banking provides lending, treasury management and capital markets-related products and services to midsized and large corporations and government and not-for-profit entities. Average loans for this business grew in the comparison reflecting strong production in asset-backed financing as well as increased lending to large and midsized corporate clients, partially offset by lower public finance lending.
- PNC Real Estate provides banking, financing and servicing solutions for commercial real estate clients across the country. Average loans for this business decreased primarily driven by project loan payoffs, partially offset by higher commercial mortgage balances.
- PNC Business Credit provides asset-based lending. The loan portfolio is relatively high yielding, with acceptable risk as the loans are mainly secured by short-term assets. Average loans for this business grew in the comparison as increased utilization and new originations were partially offset by payoffs.
- PNC Equipment Finance provides equipment financing solutions for clients throughout the U.S. and Canada. Average loans, including commercial loans and finance leases, and operating leases totaled $15.5 billion in

2018, an increase of $1.2 billion compared with 2017 due to strong new production and the impact of the business acquired in the second quarter of 2017.

- Commercial Banking provides lending, treasury management and capital markets-related products and services to smaller corporations and businesses. Average loans for this business were relatively unchanged.

The deposit strategy of Corporate & Institutional Banking is to remain disciplined on pricing and focused on growing and retaining relationship-based balances over time, executing on customer and segment-specific deposit growth strategies and continuing to provide funding and liquidity to PNC. In 2018, average total deposits increased compared to 2017 driven by growth in interest-bearing deposits reflecting, in part, a shift from noninterest-bearing deposits in the rising rate environment. We continue to monitor and balance the relationship between increases to rates paid and the overall profitability of our deposit balances.

Corporate & Institutional Banking expanded its Corporate Banking business, focused on the middle market and larger sectors, into the Denver, Houston and Nashville markets in 2018. This followed offices opened in 2017 in Dallas, Kansas City and Minneapolis. These locations complement Corporate & Institutional Banking national businesses with a significant presence in these cities, and build on past successes in the markets where PNC's retail banking presence was limited, such as in the Southeast. Our full suite of commercial products and services is offered in these locations. We have announced plans to expand into the Boston and Phoenix markets in 2019.

Product Revenue

In addition to credit and deposit products for commercial customers, Corporate & Institutional Banking offers other services, including treasury management, capital markets-related products and services, and commercial mortgage banking activities, for customers of all business segments. On a consolidated basis, the revenue from these other services is included in net interest income, corporate service fees and other noninterest income. From a business segment perspective, the majority of the revenue and expense related to these services is reflected in the Corporate & Institutional Banking segment results and the remainder is reflected in the results of other businesses. The Other Information section in Table 10 includes the consolidated revenue to PNC for these services. A discussion of the consolidated revenue from these services follows.

The Treasury Management business provides payables, receivables, deposit and account services, liquidity and investments, and online and mobile banking products and services to our clients. Treasury management revenue is reported in noninterest income and net interest income. Noninterest income includes treasury management product revenue less earnings credits provided to customers on compensating deposit balances used to pay for products and services. Net interest income primarily includes revenue from all treasury management customer deposit balances. Compared with 2017, treasury management revenue increased primarily due to interest rate spread expansion on deposit balances and higher product revenue.

Capital markets-related products and services include foreign exchange, derivatives, securities underwriting, loan syndications, mergers and acquisitions advisory and equity capital markets advisory related services. The increase in revenue in the comparison was broad based across most products and services and included higher merger and acquisition advisory, derivative, foreign exchange and equity capital markets advisory related services, partially offset by lower revenue from credit valuations on customer-related derivative activities.

Commercial mortgage banking activities include revenue derived from commercial mortgage servicing (including net interest income and noninterest income) and revenue derived from commercial mortgage loans held for sale and related hedges. Total revenue from commercial mortgage banking activities decreased in the comparison as a lower benefit from commercial mortgage servicing rights valuation, net of economic hedge, and lower revenue from commercial mortgage loans held for sale were partially offset by higher revenue from commercial mortgage loan servicing.

Asset Management Group

Asset Management Group is focused on being a premier bank-held individual and institutional asset manager in each of the markets it serves. The business seeks to deliver high quality banking, trust and investment management services to our high net worth, ultra high net worth and institutional client sectors through a broad array of products and services. Asset Management Group’s priorities are to serve our clients' financial objectives, grow and deepen customer relationships and deliver solid financial performance with prudent risk and expense management.

Table 11: Asset Management Group Table
(Unaudited)

Year ended December 31			Change	
Dollars in millions, except as noted	2018	2017	$	%
Income Statement				
Net interest income	$287	$287	$—	—
Noninterest income	892	881	11	1 %
Total revenue	1,179	1,168	11	1 %
Provision for credit losses	2	1	1	100 %
Noninterest expense	913	905	8	1 %
Pretax earnings	264	262	2	1 %
Income taxes	62	75	(13)	(17)%
Earnings	$202	$187	$15	8 %
Average Balance Sheet				
Loans				
Consumer	$4,656	$5,018	$(362)	(7)%
Commercial and commercial real estate	727	715	12	2 %
Residential mortgage	1,588	1,301	287	22 %
Total loans	$6,971	$7,034	$(63)	(1)%
Total assets	$7,423	$7,511	$(88)	(1)%
Deposits				
Noninterest-bearing demand	$1,458	$1,528	$(70)	(5)%
Interest-bearing demand	3,323	3,628	(305)	(8)%
Money market	2,253	3,158	(905)	(29)%
Savings	4,890	3,947	943	24 %
Other	466	250	216	86 %
Total deposits	$12,390	$12,511	$(121)	(1)%
Performance Ratios				
Return on average assets	2.72 %	2.49 %		
Noninterest income to total revenue	76 %	75 %		
Efficiency	77 %	77 %		
Supplemental Noninterest Income Information				
Asset management fees	$883	$865	$18	2 %
Other Information				
Nonperforming assets (a) (b)	$46	$49	$(3)	(6)%
Net charge-offs	$9	$4	$5	125 %
Client Assets Under Administration (in billions) (a) (c)				
Discretionary client assets under management	$148	$151	$(3)	(2)%
Nondiscretionary client assets under administration	124	131	(7)	(5)%
Total	$272	$282	$(10)	(4)%
Discretionary client assets under management				
Personal	$87	$94	$(7)	(7)%
Institutional	61	57	4	7 %

Total	$148	$151	$(3)	(2)%

(a) As of December 31.
(b) Includes nonperforming loans of $45 million at December 31, 2018 and $44 million at December 31, 2017.
(c) Excludes brokerage account client assets.

Asset Management Group earned $202 million in 2018 compared with $187 million in 2017. Higher earnings reflected the lower statutory federal income tax rate and higher revenue, partially offset by higher noninterest expense.

Higher revenue in the comparison was driven by growth in asset management fees, reflecting stronger average equity markets, partially offset by changes in asset mix.

Noninterest expense increased in the comparison and was primarily attributable to higher compensation and continued investments in technology.

Asset Management Group's discretionary client assets under management decreased in the comparison, primarily attributable to a decline in the equity markets as of December 31, 2018 compared to the prior year-end.

The Asset Management Group strives to be the leading relationship-based provider of investment, planning, banking and fiduciary services to wealthy individuals and institutions by proactively delivering value-added ideas and solutions and exceptional service.

Wealth Management and Hawthorn have nearly 100 offices operating in seven out of the ten most affluent states in the U.S. with a majority co-located with retail banking branches. The businesses provide customized investments, wealth planning, trust and estate administration and private banking solutions to affluent individuals and ultra-affluent families.

Institutional Asset Management provides outsourced chief investment officer, custody, private real estate, cash and fixed income client solutions, and retirement administration services to institutional clients such as corporations, healthcare systems, insurance companies, unions, municipalities and non-profits. The business also offers PNC proprietary mutual funds and investment strategies. Institutional Asset Management is strengthening its partnership with Corporate & Institutional Banking to drive growth and is focused on building retirement capabilities and expanding product solutions for all customers.

BlackRock

(Unaudited)

Information related to our equity investment in BlackRock follows:

Table 12: BlackRock Table

Year ended December 31 Dollars in millions	2018	2017
Business segment earnings (a)	$781	$1,764
PNC's economic interest in BlackRock (b)	22 %	22 %

(a) Includes our share of BlackRock's reported GAAP earnings and income taxes on those earnings incurred by us.

(b) At December 31.

In billions	December 31, 2018	December 31, 2017
Carrying value of our investment in BlackRock (c)	$ 8.2	$ 7.7
Market value of our investment in BlackRock (d)	$ 13.7	$ 17.9

(c) We account for our investment in BlackRock under the equity method of accounting, exclusive of a related deferred tax liability of $1.7 billion at December 31, 2018 and $1.6 billion at December 31, 2017. Our voting interest in BlackRock common stock was approximately 22% at December 31, 2018.

(d) Does not include liquidity discount.

Earnings for our BlackRock segment decreased compared with 2017, reflecting the 2017 income tax benefit of $972 million resulting from the revaluation of our deferred tax liabilities related to BlackRock as a result of the new federal tax legislation. Our share of BlackRock's reported 2017 GAAP earnings also included a $254 million flow through impact of the new tax legislation on the income recognized on our equity investment in BlackRock.

In addition to our investment in BlackRock reflected in Table 12, at December 31, 2018, we held approximately 143,458 shares of BlackRock Series C Preferred Stock valued at $45 million, which were available to fund our obligation in connection with certain BlackRock long-term incentive plan (LTIP) programs. Additional information regarding the valuation of the BlackRock Series C Preferred Stock is included in Note 6 Fair Value, and additional information regarding our BlackRock LTIP share obligations is included in Note 12 Stock Based Compensation Plans, both of which are in Item 8 of this Report.

See Note 24 Subsequent Events in Item 8 of this Report for information on our January 31, 2019 transfer of our remaining shares of Series C Preferred Stock to BlackRock to satisfy our obligation under the Share Surrender Agreement.

2017 VERSUS 2016

Consolidated Income Statement Review

Summary Results

Net income for 2017 was $5.4 billion, or $10.36 per diluted common share, an increase of 35% compared with $4.0 billion, or $7.30 per diluted common share, for 2016. Higher net income was driven by an 8% increase in total revenue and a tax benefit from the new federal tax legislation, partially offset by a 10% increase in noninterest expense.

Net Interest Income

Net interest income increased $717 million, or 9%, to $9.1 billion in 2017 compared to 2016 due to increases in loan and securities balances and yields, partially offset by an increase in borrowing and deposit costs. Net interest margin increased to 2.87% in 2017 compared to 2.73% in 2016, reflecting the benefit to loans and securities yields from higher interest rates in 2017.

Noninterest Income

Noninterest income increased $450 million, or 7%, to $7.2 billion for 2017 compared to 2016. Noninterest income as a percentage of total revenue was 44% for 2017 compared to 45% for 2016.

Asset management revenue increased $421 million, or 28%, to $1.9 billion in 2017 compared to 2016 reflecting higher earnings from our equity investment in BlackRock, including a $254 million flow through impact from the new federal tax legislation on our equity investment. Additionally, the impact of stronger equity markets contributed to the increase. Discretionary client assets under management in our Asset Management Group segment were $151 billion at December 31, 2017 compared with $137 billion at December 31, 2016, primarily attributable to higher equity markets.

Consumer service fees of $1.4 billion in 2017 grew $27 million, or 2%, compared to 2016, primarily due to a $25 million increase in credit card fees, net of rewards, and debit card fees, which reflected continued momentum in customer activity in both transaction trends and customer growth. In addition, brokerage fees increased $17 million, driven by higher brokerage assets under management. These increases were partially offset by individually insignificant items.

Corporate services revenue increased $153 million, or 10%, to $1.7 billion in 2017 compared to 2016, reflecting broad based growth, including higher merger and acquisition (M&A) advisory fees of $65 million and an increase in loan syndication and agency fees of $28 million, both of which reflected continued momentum in the M&A market. Higher treasury management revenue and operating lease income related to the commercial and vendor finance business acquired in the second quarter of 2017 also contributed to the increase in corporate services revenue.

In the first quarter of 2018, and in connection with the commercial and vendor finance business we acquired in the second quarter of 2017, we reclassified operating lease income to Corporate services noninterest income from Other noninterest income on the Consolidated Income Statement. Operating lease income was $121 million in 2017 and $85 million in 2016.

Residential mortgage revenue decreased $217 million, or 38%, to $.4 billion in 2017 compared to 2016, reflecting a decline of $122 million in residential mortgage servicing rights valuation, net of economic hedge, which included a $71 million negative adjustment for mortgage servicing rights fair value assumption updates in the fourth quarter of 2017. In addition, the decrease reflected lower loan sales revenue of $85 million, which was driven by lower origination volume and compressed pricing margins.

Service charges on deposits of $.7 billion in 2017 increased $28 million, or 4%, compared to 2016, reflecting higher levels of activity.

Other noninterest income increased $38 million, or 4%, to $1.1 billion in 2017 compared to 2016, primarily due to higher revenue from private equity investments of $172 million and $119 million for the appreciation of BlackRock common stock used to fund PNC's fourth quarter 2017 contribution to the PNC Foundation. The increase in revenue from private equity investments reflected positive impacts from valuation adjustments on equity investments subject to the Volcker Rule provision of Dodd-Frank. These increases were largely offset by negative derivative fair value adjustments related to Visa Class B common shares of $280 million in 2017, including $248 million in the fourth quarter primarily related to the extension of anticipated timing of litigation resolution. In 2016, gains on sales of Visa Class B common shares, net of derivative fair value adjustments, were $32 million.

Provision For Credit Losses

The provision for credit losses increased to $441 million in 2017 compared to $433 million in 2016. The provision for 2017 reflected loan growth, including an initial provision for the loan and lease portfolio obtained through the business acquired in the second quarter of 2017, mostly offset by lower provisions in the oil, gas and coal sectors.

Noninterest Expense

Noninterest expense increased by $922 million, or 10%, to $10.4 billion in 2017 compared to 2016, reflecting higher levels of business activity and ongoing investments in technology and business infrastructure. Higher personnel expense included the fourth quarter 2017 announcement of employee cash payments and pension account credits totaling $105 million. In addition, charges for real estate dispositions and exits totaled $197 million for the fourth quarter of 2017, primarily within other noninterest expense. Additionally, other noninterest expense for 2017 included the fourth quarter $200 million contribution of BlackRock common stock to the PNC Foundation. Contributions to the PNC Foundation in 2016 were $75 million. During 2017, we completed actions and achieved our 2017 continuous improvement program savings goal of $350 million, which funded a significant portion of our business and technology investments, including our Retail branch strategy, enhanced digital capabilities and our home lending transformation.

Effective Income Tax Rate

An income tax benefit of $1.2 billion was recorded in the fourth quarter of 2017 related to the change in tax legislation and was primarily attributable to the revaluation of net deferred tax liabilities at the lower statutory tax rate of 21%. As a result, the effective income tax rate for 2017 was 1.9% compared with 24.1% for 2016.

Consolidated Balance Sheet Review

Summary Results

Our balance sheet grew in 2017 compared to 2016 and we had strong liquidity and capital positions. Total assets increased to $380.8 billion at December 31, 2017 compared to $366.4 billion at December 31, 2016 primarily due to strong loan growth and higher interest-earning deposits with banks. Total liabilities increased to $333.2 billion at December 31, 2017 compared to $319.5 billion at December 31, 2016 due to deposit growth and higher borrowed funds. Total equity increased to $47.6 billion at December 31, 2017 compared to $46.9 at December 31, 2016 due to higher retained earnings driven by net income, partially offset by common share repurchases and a decline in noncontrolling interests related to the redemption of Perpetual Trust Securities in the first quarter of 2017.

Loans

Loans increased $9.6 billion, or 5%, to $220.5 billion as of December 31, 2017 compared with December 31, 2016, reflecting higher commercial lending and consumer lending.

Commercial lending increased $9.5 billion, or 7%, reflecting broad based growth across our lending businesses, including Corporate Banking, Business Credit and Equipment Finance within our Corporate & Institutional Banking segment. In Corporate Banking, loan growth was largely due to increased lending related to mergers and acquisition activity and strong growth in middle market lending. In Business Credit, new originations and higher utilization drove the increase. In the Equipment Finance business, commercial loans and equipment lease financing loans increased as a result of new production, as well as the acquisition of a commercial and vendor finance business with $1.0 billion of loans and leases during the second quarter of 2017.

Growth in consumer lending balances of $.1 billion was driven by higher residential real estate, automobile and credit card loans, partially offset by lower home equity and education loans. Residential real estate loans increased as a result of growth in originations of nonconforming residential mortgage loans, both nationwide and within our branch network. Automobile loans grew in part due to continued expansion in our Southeast markets. Higher credit card balances reflected an increase in new accounts, due in part to the introduction of a new credit card product, as well as higher purchase volume. Decreases in home equity and education loans included the continued runoff in our non-strategic brokered home equity and government guaranteed education loan portfolios. The decline in home equity also reflected decreases due to paydowns and payoffs exceeding new originated volume.

Average total loans increased $8.5 billion, or 4%, to $217.3 billion in 2017 compared to 2016, reflecting increases in average commercial lending of $8.4 billion and average consumer lending of $.1 billion.

Investment Securities

Investment securities increased $.2 billion to $76.1 billion at December 31, 2017 compared to December 31, 2016. Growth in investment securities was driven by net purchases of agency residential mortgage-backed securities of $2.7 billion and U.S. Treasury and government agencies securities of $1.6 billion, partially offset by declines in commercial mortgage-backed securities of $2.2 billion, asset-backed securities of $.9 billion and non-agency residential mortgage-backed securities of $.6 billion.

Average investment securities increased $3.0 billion, or 4%, to $75.1 billion in 2017 compared to 2016. Net purchases of U.S. Treasury and government agencies securities of $2.9 billion and agency residential mortgage-backed securities of $2.8 billion were partially offset by declines in average commercial mortgage-backed securities of $1.6 billion and non-agency residential mortgage-backed securities of $.8 billion.

The weighted-average expected maturity of the investment securities portfolio (excluding other) was 5.2 years at December 31, 2017 and 5.0 years at December 31, 2016.

Funding Sources

Deposits increased $7.9 billion, or 3%, to $265.1 billion at December 31, 2017 compared with December 31, 2016. Savings deposits grew $10.0 billion reflecting, in part, a shift from consumer money market to relationship-based savings products. Money market deposits declined $4.2 billion due to the shift to savings products, which was partially offset by growth of $3.5 billion in commercial interest-bearing money market deposits. Interest-bearing demand deposits increased $2.7 billion, reflecting growth in consumer deposits of $1.7 billion and higher commercial deposits of $1.0 billion.

Average total deposits increased $7.2 billion, or 3%, to $258.1 billion in 2017 compared to 2016 primarily due to growth in average interest-bearing deposits of $6.7 billion, or 4%, driven by higher average savings deposits of $13.1 billion. This increase reflected a shift, in part, to relationship-based savings products from money market deposits, which decreased $9.2 billion. Additionally, average interest-bearing demand deposits grew $4.3 billion, mainly attributable to the higher interest rate environment and customer growth. Average noninterest-bearing deposits increased $.5 billion in 2017 over 2016.

Total borrowed funds increased $6.4 billion, or 12%, to $59.1 billion at December 31, 2017 compared with December 31, 2016 as higher bank notes and senior debt and FHLB borrowings were driven by new issuances outpacing maturities and calls. These increases were partially offset by subordinated debt maturities.

Shareholders’ Equity

Total shareholders’ equity grew $1.8 billion, or 4%, to $47.5 billion at December 31, 2017 compared with December 31, 2016. Higher retained earnings, which reflected net income of $5.4 billion reduced by $1.5 billion of common and preferred dividends, was partially offset by common share repurchases of $2.3 billion. Common shares outstanding were 473 million and 485 million at December 31, 2017 and December 31, 2016, respectively, reflecting repurchases of 18.6 million shares during 2017, which were partially offset by share issuances from treasury stock related to warrants exercised and stock-based compensation activity.

RISK MANAGEMENT

Enterprise Risk Management

We encounter risk as part of the normal course of operating our business. Accordingly, we design risk management processes to help manage this risk. We manage risk in light of our risk appetite to optimize long-term shareholder value while supporting our employees, customers and communities.

Our Enterprise Risk Management (ERM) Framework is structurally aligned with enhanced prudential standards that establish minimum requirements for the design and implementation of a risk management framework. This Risk Management section describes our ERM Framework which consists of risk culture, enterprise strategy (including risk appetite, strategic planning, capital planning and stress testing), risk governance and oversight, risk identification, risk assessments, risk controls and monitoring, and risk aggregation and reporting. The overall Risk Management section of this Item 7 also provides an analysis of our key areas of risk, which include but are not limited to credit, liquidity and capital, market, operational and compliance. Our use of financial derivatives as part of our overall asset and liability risk management process is also addressed within this Risk Management section.

We operate within a rapidly evolving regulatory environment. Accordingly, we are actively focused on the timely adoption of applicable regulatory pronouncements within our ERM Framework.

We view risk management as a cohesive combination of the following risk elements which form our ERM Framework:

Risk Culture

A strong risk culture helps us make well-informed decisions, ensures individuals conform to the established culture, reduces an individual's ability to do something for personal gain, and rewards employees working toward a common goal rather than individual interests. Our risk culture reinforces the appropriate protocols for responsible and ethical behavior. These protocols are especially critical in terms of our risk awareness, risk-taking behavior and risk management practices.

Managing risk is every employee's responsibility. All of our employees individually and collectively assume responsibility for ensuring the organization is performing with the utmost integrity, is applying sound risk management practices and is striving to achieve our stated objectives rather than pursuing individual interests. All employees are responsible for understanding our Enterprise Risk Appetite Statement, the ERM Framework and how risk management applies to their respective roles and responsibilities. Employees are encouraged to collaborate across groups to identify and mitigate risks and elevate issues as required. We reinforce risk management responsibilities through a performance management system where employee performance goals include risk management objectives and incentives for employees to reinforce balanced measures of risk-adjusted performance.

Proactive communication, between groups and up to the Board of Directors, facilitates timely identification and resolution of risk issues. Our multi-level risk committee structure provides formal channels to identify and report risk.

Enterprise Strategy

We ensure that our overall enterprise strategy is within acceptable risk parameters through our risk appetite, strategic planning, capital planning and stress testing processes. These components are reviewed and approved at least annually by the Board of Directors.

Risk Appetite: Our risk appetite represents the organization's desired enterprise risk position, set within our capital based risk and liquidity capacity to achieve our strategic objectives and business plans. The Enterprise Risk Appetite Statement qualitatively describes the aggregate level of risk we are willing to accept in order to execute our business strategies. Qualitative guiding principles further define each of the risks within our taxonomy to support the risk appetite statement. Risk appetite metrics and limits, including forward-looking metrics, quantitatively measure whether we are operating within our stated Risk Appetite. Our risk appetite metrics reflect material risks, align with our established Risk Appetite Framework, balance risk and reward, leverage analytics, and adjust in a timely manner to changes in the external and internal risk environments.

Strategic Planning: Our enterprise and line of business strategic plans outline major objectives, strategies and goals which are expected to be achieved over the next five years while seeking to ensure we remain compliant with all capital, risk appetite and liquidity targets and guidelines. Our CEO and CFO lead the development of the strategic plan, the strategic objectives and the comprehensive identification of material risks that could hinder successful implementation and execution of strategies. Strategic planning is linked to our risk management and capital planning processes.

Capital Planning and Stress Testing: Capital planning helps to ensure we are maintaining safe and sound operations and viability. The capital planning process and the resulting capital plan evolve as our overall risks, activities and risk management practices change. Capital planning aligns with our strategic planning process.

Stress testing is an essential element of the capital planning process. Effective stress testing enables us to consider the estimated effect on capital of various hypothetical scenarios.

Risk Governance and Framework

We employ a comprehensive risk management governance framework to help ensure that risks are identified, balanced decisions are made that consider risk and return, and risks are adequately monitored and managed. Risk committees established within this risk governance and oversight framework provide oversight for risk management activities at the Board of Directors, executive, corporate and business levels. Committee composition is designed to provide effective oversight balanced across the three lines of defense in accordance with the OCC's heightened risk management and governance standards and guidelines. See discussion of the enhanced prudential standards in the Supervision and Regulation section in Item 1 of this Report.

To ensure the appropriate risks are being taken and effectively managed and controlled, risk is managed across three lines of defense. The Board of Directors' and each line of defense's responsibilities are detailed below:

Board of Directors – The Board of Directors oversees our risk-taking activities and is responsible for exercising sound, independent judgment when assessing risk.
First line of defense – The front line units are accountable for identifying, owning and managing risks to within acceptable levels while adhering to the risk management framework established by the Independent Risk Management department. Our businesses strive to enhance risk management and internal control processes within their areas. Integrated and comprehensive processes are designed to adequately identify, measure, manage, monitor and report risks which may significantly impact each business.
Second line of defense – The second line of defense is independent from the first line of defense and is responsible for establishing the standards for identifying, measuring, monitoring, controlling and reporting aggregate risks. As the second line of defense, the

independent risk areas monitor the risks generated by the first line of defense, review and challenge the implementation of effective risk management practices, and report any issues or exceptions. The risk areas help to ensure the first line of defense is properly designed and operating as intended, and they may intervene directly in modifying and developing first line of defense risk processes and controls.

Third line of defense – As the third line of defense, Internal Audit is independent from the first and second lines of defense. Internal Audit provides the Board of Directors and executive management comprehensive assurance on the effectiveness of risk management practices across the organization.

Within the three lines of defense, the independent risk organization has sufficient authority to influence material decisions. Our business oversight and decision-making is supported through a governance structure at the Board of Directors and management level. Specific responsibilities include:

Board of Directors – Our Board of Directors oversees our business and affairs as managed by our officers and employees. The Board of Directors may receive assistance in carrying out its duties and may delegate authority through the following standing committees:

- Audit Committee: monitors the integrity of our consolidated financial statements; monitors internal control over financial reporting; monitors compliance with our code of ethics; evaluates and monitors the qualifications and independence of our independent auditors; and evaluates and monitors the performance of our Internal Audit function and our independent auditors.
- Nominating and Governance Committee: oversees the implementation of sound corporate governance principles and practices while promoting our best interests and those of our shareholders
- Personnel and Compensation Committee: oversees the compensation of our executive officers and other specified responsibilities related to personnel compensation matters affecting us. The committee is also responsible for evaluating the relationship between risk-taking activities and incentive compensation plans.
- Risk Committee: oversees enterprise-wide risk structure and the processes established to identify, measure, monitor and manage the organization’s risks and evaluates and approves our risk governance framework. The Risk Committee has formed a Technology Subcommittee and a Compliance Subcommittee to facilitate Board-level oversight of risk management in these areas.

Executive Committee: The Executive Committee is responsible for guiding the creation and execution of our business strategy across the company. With this responsibility, the Executive Committee executes various strategic approval and review activities, with a focus on capital deployment, business performance and risk management.

Corporate Committees – The corporate committees are responsible for overseeing risk standards and strategies, recommending risk limits, policies and metrics, monitoring risk exposures, reviewing risk profiles and key risk issues, and approving significant transactions and initiatives. We have established several senior management-level corporate committees to facilitate the review, evaluation and management of risk.

Working Committees – The working committees are generally subcommittees of the corporate committees. Working committees are intended to assist in the implementation of key enterprise-level activities within a business or function; recommend and/or approve risk appetite metrics and limits; recommend and/or approve policies that are generally within the standards outlined in the applicable enterprise policy; and review and/or approve certain significant transactions or initiatives.

Policies and Procedures – We have established risk management policies and procedures to provide direction, guidance and clarity on roles and responsibilities to management and the Board of Directors. These policies and procedures are organized in a multi-tiered framework and require periodic review and approval by relevant committees within the governance structure.

We have established risk management policies, programs and procedures to support our ERM Framework, articulate our risk culture, define the parameters and processes within which employees are to manage risk and conduct our business activities and to provide direction, guidance and clarity on roles and responsibilities to management and the Board of Directors. These policies, programs and procedures are organized in a multi-tiered framework and require periodic review and approval by relevant committees within the governance structure.

Risk Identification

Risk identification takes place across a variety of risk types throughout the organization. These risk types consist of, but are not limited to, credit, liquidity and capital, market, operational and compliance. Risks are identified based on a balanced use of analytical tools and management judgment for both on- and off-balance sheet exposures. Our governance structure supports risk identification by facilitating assessment of key risk issues, emerging risks and idiosyncratic risks and implementation of mitigation strategies as appropriate. These risks are prioritized based on quantitative and qualitative analysis and assessed against the risk appetite. Multiple tools and approaches are used to help identify and prioritize risks, including Risk Appetite Metrics, Key Risk Indicators, Key Performance Indicators, Risk Control and Self-Assessments, scenario analysis, stress testing and special investigations.

Risks are aggregated and assessed within and across risk functions or businesses. The aggregated risk information is reviewed and reported at an enterprise level for adherence to the Risk Appetite Framework and approved by the Board of Directors or by appropriate committees. This enterprise aggregation and reporting approach promotes the identification and appropriate escalation of material risks across the organization and supports an understanding of the cumulative impact of risk in relation to our risk appetite.

Risk Assessment

Once risks are identified, they are evaluated based on quantitative and qualitative analysis to determine whether they are material. Risk assessments support the overall management of an effective ERM Framework and allow us to control and monitor our actual risk level and risk management effectiveness through the use of risk measures. Comprehensive, accurate and timely assessments of risk are essential to an effective ERM Framework. Effective risk measurement practices will uncover recurring risks that have been experienced in the past; make the known risks easy to see, understand, compare and report; and reveal unanticipated risks that may not be easy to understand or predict.

Risk Controls and Monitoring

Our ERM Framework consists of policies, processes, personnel and control systems. Risk controls and limits provide the linkage from our Risk Appetite Statement and associated guiding principles to the risk taking activities of our businesses. In addition to risk appetite limits, a system of more detailed internal controls exists which oversees and monitors our various processes and functions. These control systems measure performance, help employees make correct decisions, ensure information is accurate and reliable, and document compliance with laws and regulations. Our monitoring and evaluation of risks and controls provides assurance that policies, procedures and controls are effective and also results in the identification of control improvement recommendations. Risk monitoring is a daily, ongoing process used by both the first and second line of defense to ensure compliance with our ERM Framework. Risk monitoring is accomplished in many ways, including performing risk assessments at the prime process and risk assessment unit level, monitoring an area's key controls, the timely reporting of issues, and establishing a quality control and/or quality assurance function, as applicable.

Risk Aggregation and Reporting

Risk reporting is a comprehensive way to: (i) aggregate risks; (ii) identify concentrations; (iii) help ensure we remain within our established risk appetite; (iv) serve as a basis for monitoring our risk profile in relation to our risk appetite and (v) communicate risks to the Board of Directors and executive management.

Risk reports are produced at the line of business, functional risk and enterprise levels. The enterprise level risk report aggregates risks identified in the functional and business reports to define the enterprise risk profile. The enterprise risk profile is a point-in-time assessment of enterprise risk and represents our overall risk position in relation to the desired enterprise risk appetite. The determination of the enterprise risk profile is based on analysis of quantitative reporting of risk limits and other measures along with qualitative assessments. Quarterly aggregation of our risk profile enables a clear view of our risk level relative to our quantitative risk appetite. The enterprise level report is provided through the governance structure to the Board of Directors.

Each individual risk report includes an assessment of inherent risk, quality of risk management, residual risk, risk appetite and risk outlook. The enterprise level risk report includes an aggregate view of risks identified in the individual report and provides a summary of our overall risk profile compared to our risk appetite.

Credit Risk Management

Credit risk represents the possibility that a customer, counterparty or issuer may not perform in accordance with contractual terms. Credit risk is inherent in the financial services business and results from extending credit to customers, purchasing securities, and entering into financial derivative transactions and certain guarantee contracts. Credit risk is one of our most significant risks. Our processes for managing credit risk are embedded in our risk culture and in our decision-making processes using a systematic approach whereby credit risks and related exposures are identified and assessed, managed through specific policies and processes, measured and evaluated against our risk appetite and credit concentration limits, and reported, along with specific mitigation activities, to management and the Board of Directors through our governance structure. Our most significant concentration of credit risk is in our loan portfolio.

Loan Portfolio Characteristics and Analysis

Table 13: Details of Loans
Dollars in billions

We use several asset quality indicators, as further detailed in Note 3 Asset Quality, to monitor and measure our exposure to credit risk within our loan portfolio. The following provides additional information about our significant loan classes.

Commercial
Commercial loans comprised 52% and 50% of our total loan portfolio at December 31, 2018 and 2017, respectively. The majority of our commercial loans are secured by collateral that provides a secondary source of repayment for the loan should the borrower experience cash generation difficulties. Examples of this collateral include short-term assets, such as accounts receivable, inventory and securities, and long-lived assets, such as equipment, real estate and other business assets.

We actively manage our commercial loans to assess any changes (both positive and negative) in the level of credit risk at both the borrower and portfolio level. To evaluate the level of credit risk, we assign internal risk ratings reflecting our estimates of the borrower's probability of default (PD) and loss given default (LGD) for each related credit facility. This two-dimensional credit risk rating methodology provides granularity in the risk monitoring process and is updated on an ongoing basis through our credit risk management processes. In addition to continual monitoring of the level of credit risk, we also monitor concentrations of credit risk pertaining to both specific industries and geography that may exist in our portfolio. Our portfolio remains stable and well-diversified as shown in the following table which provides a breakout of our commercial loans by industry classification (classified based on the North American Industry Classification System (NAICS)).

Table 14: Commercial Loans by Industry

	December 31, 2018		December 31, 2017	
Dollars in millions	Amount	% of Total	Amount	% of Total
Commercial				
Manufacturing	$21,207	18 %	$20,578	19 %
Retail/wholesale trade	20,850	18	17,846	16
Service providers	14,869	13	15,100	14
Real estate related (a)	12,312	11	12,496	11
Financial services	9,500	8	8,532	8
Health care	8,886	8	9,739	9
Transportation and warehousing	5,781	5	5,609	5
Other industries	23,429	19	20,627	18
Total commercial loans	$116,834	100%	$110,527	100%

(a) Includes loans to customers in the real estate and construction industries.

Commercial Real Estate

Commercial real estate loans comprised $6.6 billion of real estate project loans, $7.1 billion of intermediate term financing loans and $14.4 billion related to commercial mortgages as of December 31, 2018. Comparable amounts were $6.9 billion, $8.4 billion and $13.7 billion, respectively, as of December 31, 2017.

We monitor credit risk associated with our commercial real estate loans similar to commercial loans by analyzing PD and LGD. Additionally, risks associated with these types of credit activities tend to be correlated to the loan structure, collateral location, project progress and business environment. These attributes are also monitored and utilized in assessing credit risk. The portfolio is geographically diverse due to the nature of our business involving clients throughout the U.S. The following table presents our commercial real estate loans by geographic market and property type.

Table 15: Commercial Real Estate Loans by Geography and Property Type

	December 31, 2018		December 31, 2017	
Dollars in millions	Amount	% of Total	Amount	% of Total
Geography				
California	$4,154	15 %	$4,192	14 %
Florida	2,157	8	2,221	8
Maryland	1,966	7	2,104	7
Virginia	1,682	6	1,609	5
Texas	1,531	5	1,639	6
Illinois	1,368	5	1,325	5
Pennsylvania	1,214	4	1,394	5
New York	1,151	4	1,163	4
Ohio	1,053	4	1,134	4
North Carolina	915	3	943	3
All other states	10,949	39	11,254	39
Total commercial real estate loans	$28,140	100%		