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

FORM 10-K

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

For the year ended December 31, 2018

Commission File Number 1-11758

Morgan Stanley

(Exact name of Registrant as specified in its charter)

Delaware	**1585 Broadway New York, NY 10036**	**36-3145972**	**(212) 761-4000**
(State or other jurisdiction of incorporation or organization)	(Address of principal executive offices, including zip code)	(I.R.S. Employer Identification No.)	(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Name of exchange on which registered
Common Stock, $0.01 par value	New York Stock Exchange
Depositary Shares, each representing 1/1,000th interest in a share of Floating Rate Non-Cumulative Preferred Stock, Series A, $0.01 par value	New York Stock Exchange
Depositary Shares, each representing 1/1,000th interest in a share of Fixed-to-Floating Rate Non-Cumulative Preferred Stock, Series E, $0.01 par value	New York Stock Exchange
Depositary Shares, each representing 1/1,000th interest in a share of Fixed-to-Floating Rate Non-Cumulative Preferred Stock, Series F, $0.01 par value	New York Stock Exchange
Depositary Shares, each representing 1/1,000th interest in a share of 6.625% Non-Cumulative Preferred Stock, Series G, $0.01 par value	New York Stock Exchange
Depositary Shares, each representing 1/1,000th interest in a share of Fixed-to-Floating Rate Non-Cumulative Preferred Stock, Series I, $0.01 par value	New York Stock Exchange
Depositary Shares, each representing 1/1,000th interest in a share of Fixed-to-Floating Rate Non-Cumulative Preferred Stock, Series K, $0.01 par value	New York Stock Exchange
Global Medium-Term Notes, Series A, Fixed Rate Step-Up Senior Notes Due 2026 of Morgan Stanley Finance LLC (and Registrant's guarantee with respect thereto)	New York Stock Exchange
Market Vectors ETNs due March 31, 2020 (two issuances); Market Vectors ETNs due April 30, 2020 (two issuances)	NYSE Arca, Inc.
Morgan Stanley Cushing® MLP High Income Index ETNs due March 21, 2031	NYSE Arca, Inc.

Indicate by check mark if Registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. YES ☒ NO ☐

Indicate by check mark if Registrant is not required to file reports pursuant to Section 13 or 15(d) of the Act. YES ☐ NO ☒

Indicate by check mark whether 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 Registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. YES ☒ NO ☐

Indicate by check mark whether the Registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the Registrant was required to submit such files). YES ☒ NO ☐

Indicate by check mark if 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. ☒

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

Large Accelerated Filer ☒	Accelerated Filer ☐
Non-Accelerated Filer ☐	Smaller reporting company ☐
	Emerging growth company ☐

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

Indicate by check mark whether Registrant is a shell company (as defined in Exchange Act Rule 12b-2). YES ☐ NO ☒

As of June 30, 2018, the aggregate market value of the common stock of Registrant held by non-affiliates of Registrant was approximately $79,320,949,858. This calculation does not reflect a determination that persons are affiliates for any other purposes.

As of January 31, 2019, there were 1,708,787,567 shares of Registrant's common stock, $0.01 par value, outstanding.

Documents Incorporated by Reference: Portions of Registrant's definitive proxy statement for its 2018 annual meeting of shareholders are incorporated by reference in Part III of this Form 10-K.

Morgan Stanley

ANNUAL REPORT ON FORM 10-K

for the year ended December 31, 2018

Table of Contents

Forward-Looking Statements

We have included in or incorporated by reference into this report, and from time to time may make in our public filings, press releases or other public statements, certain statements, including (without limitation) those under "Legal Proceedings", "Management's Discussion and Analysis of Financial Condition and Results of Operations" and "Quantitative and Qualitative Disclosures about Risk" that may constitute "forward-looking statements" within the meaning of the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. In addition, our management may make forward-looking statements to analysts, investors, representatives of the media and others. These forward-looking statements are not historical facts and represent only our beliefs regarding future events, many of which, by their nature, are inherently uncertain and beyond our control.

The nature of our business makes predicting the future trends of our revenues, expenses, and net income difficult. The risks and uncertainties involved in our businesses could affect the matters referred to in such statements, and it is possible that our actual results may differ, possibly materially, from the anticipated results indicated in these forward-looking statements. Important factors that could cause actual results to differ from those in the forward-looking statements include (without limitation):

- the effect of market conditions, particularly in the global equity, fixed income, currency, credit and commodities markets, including corporate and mortgage (commercial and residential) lending and commercial real estate markets and energy markets;
- the level of individual investor participation in the global markets as well as the level of client assets;
- the flow of investment capital into or from assets under management or supervision;
- the level and volatility of equity, fixed income and commodity prices, interest rates, inflation and currency values and other market indices;
- the availability and cost of both credit and capital as well as the credit ratings assigned to our unsecured short-term and long-term debt;
- technological changes instituted by us, our competitors or counterparties and technological risks, business continuity and related operational risks, including breaches or other disruptions of our or a third party's (or third parties thereof) operations or systems;
- risk associated with cybersecurity threats, including data protection and cybersecurity risk management;
- our ability to manage effectively our capital and liquidity, including approval of our capital plans by our banking regulators;
- the impact of current, pending and future legislation (including with respect to the Dodd-Frank Wall Street Reform and Consumer Protection Act ("Dodd-Frank Act") or changes thereto, regulation (including capital, leverage, funding, liquidity and recovery and resolution requirements and our ability to address such requirements), policies including fiscal and monetary policies established by central banks and financial regulators;
- changes to global trade policies and tariffs, government debt ceilings and funding, reforms of LIBOR, EURIBOR and other indices, and other legal and regulatory actions in the U.S. and worldwide;
- changes in tax laws and regulations globally, including the interpretation and application of the U.S. Tax Cuts and Jobs Act ("Tax Act");
- the effectiveness of our risk management processes;
- our ability to effectively respond to an economic downturn, or other market disruptions;
- the effect of economic and political conditions and geopolitical events, including, for example, the U.K.'s anticipated withdrawal from the E.U. and a government shutdown in the United States;
- the actions and initiatives of current and potential competitors as well as governments, central banks, regulators and self-regulatory organizations;
- our ability to provide innovative products and services and execute our strategic objectives;
- sovereign risk;
- the performance and results of our acquisitions, divestitures, joint ventures, strategic alliances or other strategic arrangements;
- investor, consumer and business sentiment and confidence in the financial markets;
- our reputation and the general perception of the financial services industry;
- natural disasters, pandemics and acts of war or terrorism; and
- other risks and uncertainties detailed under "Business—Competition" and "Business—Supervision and Regulation", "Risk Factors" and elsewhere throughout this report.

Accordingly, you are cautioned not to place undue reliance on forward-looking statements, which speak only as of the date on which they are made. We undertake no obligation to update publicly or revise any forward-looking statements to reflect the impact of circumstances or events that arise after the dates they are made, whether as a result of new information, future events or otherwise except as required by applicable law. You should, however, consult further disclosures we may make in future filings of our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K and any amendments thereto or in future press releases or other public statements.

Available Information

We file annual, quarterly and current reports, proxy statements and other information with the SEC. The SEC maintains an internet site, *www.sec.gov*, that contains annual, quarterly and current reports, proxy and information statements and other information that issuers file electronically with the SEC. Our electronic SEC filings are available to the public at the SEC's internet site.

Our internet site is *www.morganstanley.com*. You can access our Investor Relations webpage at *www.morganstanley.com/about-us-ir*. We make available free of charge, on or through our Investor Relations webpage, our Proxy Statements, Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and any amendments to those reports filed or furnished pursuant to the Securities Exchange Act of 1934, as amended ("Exchange Act"), as soon as reasonably practicable after such material is electronically filed with, or furnished to, the SEC. We also make available, through our Investor Relations webpage, via a link to the SEC's internet site, statements of beneficial ownership of our equity securities filed by our directors, officers, 10% or greater shareholders and others under Section 16 of the Exchange Act.

You can access information about our corporate governance at *www.morganstanley.com/about-us-governance.* Our Corporate Governance webpage includes:

- Amended and Restated Certificate of Incorporation;
- Amended and Restated Bylaws;
- Charters for our Audit Committee, Compensation, Management Development and Succession Committee, Nominating and Governance Committee, Operations and Technology Committee, and Risk Committee;
- Corporate Governance Policies;
- Policy Regarding Corporate Political Activities;
- Policy Regarding Shareholder Rights Plan;
- Equity Ownership Commitment;
- Code of Ethics and Business Conduct;
- Code of Conduct;
- Integrity Hotline Information; and
- Environmental and Social Policies.

Our Code of Ethics and Business Conduct applies to all directors, officers and employees, including our Chief Executive Officer, Chief Financial Officer and Deputy Chief Financial Officer. We will post any amendments to the Code of Ethics and Business Conduct and any waivers that are required to be disclosed by the rules of either the SEC or the New York Stock Exchange LLC ("NYSE") on our internet site. You can request a copy of these documents, excluding exhibits, at no cost, by contacting Investor Relations, 1585 Broadway, New York, NY 10036 (212-761-4000). The information on our internet site is not incorporated by reference into this report.

Business

Overview

We are a global financial services firm that, through our subsidiaries and affiliates, advises, and originates, trades, manages and distributes capital for, governments, institutions and individuals. We were originally incorporated under the laws of the State of Delaware in 1981, and our predecessor companies date back to 1924. We are an FHC regulated by the Board of Governors of the Federal Reserve System ("Federal Reserve") under the Bank Holding Company Act of 1956, as amended ("BHC Act"). We conduct our business from our headquarters in and around New York City, our regional offices and branches throughout the U.S. and our principal offices in London, Tokyo, Hong Kong and other world financial centers. As of December 31, 2018, we had 60,348 employees worldwide. Unless the context otherwise requires, the terms "Morgan Stanley," the "Firm," "us," "we," and "our" mean Morgan Stanley (the "Parent Company") together with its consolidated subsidiaries. We define the following as part of our consolidated financial statements ("financial statements"): consolidated income statements ("income statements"), consolidated balance sheets ("balance sheets"), and consolidated cash flow statements ("cash flow statements"). See the "Glossary of Common Acronyms" for the definition of certain acronyms used throughout the 2018 Form 10-K.

Financial information concerning us, our business segments and geographic regions for each of the 12 months ended December 31, 2018, December 31, 2017 and December 31, 2016 is included in the financial statements and the notes thereto and in "Financial Statements and Supplementary Data."

Business Segments

We are a global financial services firm that maintains significant market positions in each of our business segments—Institutional Securities, Wealth Management and Investment Management. Through our subsidiaries and affiliates, we provide a wide variety of products and services to a large and diversified group of clients and customers, including corporations, governments, financial institutions and individuals. Additional information related to our business segments, respective clients, and products and services provided is included under "Management's Discussion and Analysis of Financial Condition and Results of Operations."

Competition

All aspects of our businesses are highly competitive, and we expect them to remain so. We compete in the U.S. and globally for clients, market share and human talent. Operating within the financial services industry on a global basis presents, among other things, technological, risk management, regulatory and other infrastructure challenges that require effective resource allocation in order for us to remain competitive. Our competitive position depends on our reputation and the quality and consistency of our long-term investment performance. Our ability to sustain or improve our competitive position also depends substantially on our ability to continue to attract and retain highly qualified employees while managing compensation and other costs. We compete with commercial banks, brokerage firms, insurance companies, exchanges, electronic trading and clearing platforms, financial data repositories, sponsors of mutual funds, hedge funds and private equity funds, energy companies, financial technology firms and other companies offering financial or ancillary services in the U.S., globally and digitally or through the internet. In addition, restrictive laws and regulations applicable to certain U.S. financial services institutions, such as Morgan Stanley, which may prohibit us from engaging in certain transactions and impose more stringent capital and liquidity requirements, can put us at a competitive disadvantage to competitors in certain businesses not subject to these same requirements. See also "Supervision and Regulation" herein and "Risk Factors."

Institutional Securities and Wealth Management

Our competitive position for our Institutional Securities and Wealth Management business segments depends on innovation, execution capability and relative pricing. We compete directly in the U.S. and globally with other securities and financial services firms and broker-dealers and with others on a regional or product basis. Additionally, there is increased competition driven by established firms as well as the emergence of new firms and business models (including innovative uses of technology) competing for the same clients and assets or offering similar products and services.

Our ability to access capital at competitive rates (which is generally impacted by our credit ratings), to commit and to deploy capital efficiently, particularly in our capital-intensive underwriting and sales, trading, financing and market-making activities, also affects our competitive position. Corporate clients may request that we provide loans or lending commitments in connection with certain investment banking activities and such requests are expected to continue.

It is possible that competition may become even more intense as we continue to compete with financial or other institutions that may be larger, or better capitalized, or may have a stronger local presence and longer operating history in certain geographies or products. Many of these firms have the ability to offer a wide range of products and services, and on different platforms, that may enhance their competitive position and could result in pricing pressure on our businesses. In addition, our business is subject to extensive regulation in the

U.S. and abroad, while certain of our competitors may be subject to less stringent legal and regulatory regimes than us, thereby putting us at a competitive disadvantage.

We continue to experience intense price competition in some of our businesses. In particular, the ability to execute securities trades electronically on exchanges and through other automated trading markets has increased the pressure on trading commissions and comparable fees. The trend toward direct access to automated, electronic markets will likely increase as additional trading moves to more automated platforms. It is also possible that we will experience competitive pressures in these and other areas in the future as some of our competitors seek to obtain market share by reducing prices (in the form of commissions or pricing).

Investment Management

Our ability to compete successfully in the asset management industry is affected by several factors, including our reputation, investment objectives, quality of investment professionals, performance of investment strategies or product offerings relative to peers and appropriate benchmark indices, advertising and sales promotion efforts, fee levels, the effectiveness of and access to distribution channels and investment pipelines, and the types and quality of products offered. Our investment products, including alternative investment products, may compete with investments offered by other investment managers with passive investment products or who may be subject to less stringent legal and regulatory regimes than us.

Supervision and Regulation

As a major financial services firm, we are subject to extensive regulation by U.S. federal and state regulatory agencies and securities exchanges and by regulators and exchanges in each of the major markets where we conduct our business. Legislative and regulatory responses to the 2007-2008 financial crisis, both in the U.S. and worldwide, have resulted in major changes to the way we are regulated and conduct our business. These laws and regulations include: the Dodd-Frank Act; risk-based capital, leverage and liquidity standards adopted or being developed by the Basel Committee on Banking Supervision ("Basel Committee"), including Basel III, and the national implementation of those standards; capital planning and stress testing requirements; and new recovery and resolution regimes in the U.S. and other jurisdictions. Some areas of post-financial crisis regulation are still subject to final rulemaking or transition periods.

We continue to monitor the changing political, tax and regulatory environment; it is likely that there will be further changes in the way major financial institutions are regulated in both the U.S. and other markets in which we operate, although it remains difficult to predict the exact impact these changes will have on our business, financial condition, results of operations and cash flows for a particular future period and we expect to remain subject to extensive supervision and regulation.

Financial Holding Company

Consolidated Supervision. We have operated as a BHC and FHC under the BHC Act since September 2008. As a BHC, we are subject to comprehensive consolidated supervision, regulation and examination by the Federal Reserve. The Federal Reserve has heightened authority to examine, prescribe regulations and take action with respect to all of our subsidiaries. In particular, we are, or will become, subject to (among other things): significantly revised and expanded regulation and supervision; intensive scrutiny of our businesses and plans for expansion of those businesses; limitations on activities; a systemic risk regime that imposes heightened capital and liquidity requirements; restrictions on activities and investments imposed by a section of the BHC Act added by the Dodd-Frank Act referred to as the "Volcker Rule"; and comprehensive derivatives regulation. In addition, the Consumer Financial Protection Bureau has primary rulemaking, enforcement and examination authority over us and our subsidiaries with respect to federal consumer protection laws, to the extent applicable.

Scope of Permitted Activities. The BHC Act limits the activities of BHCs and FHCs and grants the Federal Reserve authority to limit our ability to conduct activities. We must obtain the Federal Reserve's approval before engaging in certain banking and other financial activities both in the U.S. and internationally.

The BHC Act grandfathers "activities related to the trading, sale or investment in commodities and underlying physical properties," provided that we were engaged in "any of such activities as of September 30, 1997 in the U.S." and provided that certain other conditions that are within our reasonable control are satisfied. We currently engage in our commodities activities pursuant to the BHC Act grandfather exemption as well as other authorities under the BHC Act.

Activities Restrictions under the Volcker Rule. The Volcker Rule prohibits "banking entities," including us and our affiliates, from engaging in certain "proprietary trading" activities, as defined in the Volcker Rule, subject to exemptions for underwriting, market-making-related activities, risk-mitigating hedging and certain other activities. The Volcker Rule also prohibits certain investments and relationships by banking entities with "covered funds," with a number of exemptions and exclusions. Banking entities were required to bring all of their activities and investments into conformance with the Volcker Rule by July 21, 2015, subject to certain extensions. In June 2017, the Federal Reserve approved our application for a five-year extension of the transition period to conform investments in certain legacy covered funds that are also illiquid funds. The approval covers essentially all of our non-conforming investments in, and relationships with, legacy covered funds subject to the Volcker Rule. The Volcker Rule also requires that deductions be made from a BHC's Tier 1 capital for permissible investments in covered funds. In addition, the Volcker Rule requires banking entities to have comprehensive compliance programs reasonably designed to ensure and monitor compliance with the Volcker Rule.

The federal financial regulatory agencies responsible for the Volcker Rule's implementing regulations have proposed, but have not yet finalized, revisions to certain elements of those regulations. The proposed changes focus on proprietary trading and certain requirements imposed in connection with permitted market making, underwriting and risk-mitigating hedging activities. The impact of this proposal on us will not be known with certainty until final rules are issued.

Capital Standards. The Federal Reserve establishes capital requirements, including well-capitalized standards, for large BHCs and evaluates our compliance with such requirements. The OCC establishes similar capital requirements and standards for Morgan Stanley Bank, N.A. ("MSBNA") and Morgan Stanley Private Bank, National Association ("MSPBNA") (collectively, our "U.S. Bank Subsidiaries").

<u>Regulatory Capital Framework.</u> The regulatory capital requirements for us and our U.S. Bank Subsidiaries are largely based on the Basel III capital standards established by the Basel Committee, as supplemented by certain provisions of the Dodd-Frank Act. We are subject to various risk-based capital requirements with various transition provisions, measured against our Common Equity Tier 1 capital, Tier 1 capital and Total capital bases, leverage-based capital requirements, including the SLR, and additional capital buffers above generally applicable minimum standards for BHCs.

The Basel Committee has published a comprehensive set of revisions to its Basel III Framework. The revised requirements are expected to take effect starting January 2022, subject to U.S. banking agencies issuing implementation proposals. The impact on us of any revisions to the Basel Committee's capital standards is uncertain and depends on future rulemakings by the U.S. banking agencies.

<u>Regulated Subsidiaries.</u> In addition, many of our regulated subsidiaries are, or are expected to be in the future, subject to regulatory capital requirements, including regulated subsidiaries registered as "swap dealers" with the CFTC or "security-based swap dealers" with the SEC (collectively, "Swaps Entities") or registered as broker-dealers or futures commission merchants. Specific regulatory capital requirements vary by regulated subsidiary, and in many cases these standards are not yet established or are subject to ongoing rulemakings that could substantially modify requirements.

For more information about the specific capital requirements applicable to us and our U.S. Bank Subsidiaries, see "Management's Discussion and Analysis of Financial Condition and Results of Operations—Liquidity and Capital Resources—Regulatory Requirements."

<u>Capital Planning, Stress Tests and Capital Distributions.</u> Pursuant to the Dodd-Frank Act, the Federal Reserve has adopted capital planning and stress test requirements for large BHCs, including Morgan Stanley. For more information about the capital planning and stress test requirements, including proposed changes to those requirements that would integrate them with certain ongoing regulatory capital requirements, see "Management's Discussion and Analysis of Financial Condition and Results of Operations—Liquidity and Capital Resources—Regulatory Requirements" and "Management's Discussion and Analysis of Financial Condition and Results of Operations—Regulatory Developments—Proposed Stress Buffer Requirements."

In addition to capital planning requirements, the Federal Reserve, the OCC and the FDIC have the authority to prohibit or to limit the payment of dividends by the banking organizations they supervise, including us and our U.S. Bank Subsidiaries, if, in the banking regulator's opinion, payment of a dividend would constitute an unsafe or unsound practice in light of the financial condition of the banking organization. All of these policies and other requirements could affect our ability to pay dividends and/or repurchase stock, or require us to provide capital assistance to our U.S. Bank Subsidiaries under circumstances which we would not otherwise decide to do so.

Liquidity Standards. In addition to capital regulations, the U.S. banking agencies and the Basel Committee have adopted, or are in the process of adopting, liquidity standards. We and our U.S. Bank Subsidiaries are subject to the U.S. banking agencies' LCR requirements, which generally follow Basel Committee standards. Similarly, if the proposed NSFR requirements are adopted by the U.S. banking agencies, we and our U.S. Bank Subsidiaries will become subject to NSFR requirements, which generally follow Basel Committee standards.

In addition to the LCR and NSFR, we and many of our regulated subsidiaries, including those registered as Swaps Entities with the CFTC or SEC, are, or are expected to be in the future, subject to other liquidity standards, including liquidity stress-testing and associated liquidity reserve requirements.

For more information, see "Management's Discussion and Analysis of Financial Condition and Results of Operations—Liquidity and Capital Resources—Regulatory Liquidity Framework."

Systemic Risk Regime. The Dodd-Frank Act, as amended by the Economic Growth, Regulatory Relief and Consumer Protection Act ("EGRRCPA"), establishes a systemic risk regime to which certain large BHCs, including Morgan Stanley, are subject. Under rules issued by the Federal Reserve to implement certain requirements of the Dodd-Frank Act's enhanced prudential standards, such large BHCs must conduct internal liquidity stress tests, maintain unencumbered highly liquid assets to meet projected net cash outflows for 30 days over the range of liquidity stress scenarios used in internal stress tests, and comply with various liquidity risk management requirements. These large BHCs also must comply with a range of risk management and corporate governance requirements.

The Federal Reserve has adopted a framework to impose single-counterparty credit limits ("SCCL") for large banking organizations. U.S. G-SIBs, including us, are subject to a limit of 15% of Tier 1 capital for aggregate net credit exposures to any "major counterparty" (defined to include other U.S. G-SIBs, foreign G-SIBs, and nonbank systemically important financial institutions supervised by the Federal Reserve). In addition, we are subject to a limit of 25% of Tier 1 capital for aggregate net credit exposures to any other unaffiliated counterparty. We must comply with the SCCL framework beginning on January 1, 2020.

The Federal Reserve has proposed rules that would create a new early remediation framework to address financial distress or material management weaknesses. The Federal Reserve also has the ability to establish additional prudential standards, including those regarding contingent capital, enhanced public disclosures and limits on short-term debt, including off-balance sheet exposures. See "Management's Discussion and Analysis of Financial Condition and Results of Operations—Liquidity and Capital Resources—Regulatory Requirements—Total Loss-Absorbing Capacity and Long-Term Debt Requirement."

Under the systemic risk regime, if the Federal Reserve or the Financial Stability Oversight Council determines that a BHC with $250 billion or more in consolidated assets poses a "grave threat" to U.S. financial stability, the institution may be, among other things, restricted in its ability to merge or offer financial products and/or required to terminate activities and dispose of assets.

See also "Capital Standards" and "Liquidity Standards" herein and "Resolution and Recovery Planning" below.

Resolution and Recovery Planning. Pursuant to the Dodd-Frank Act, we are required to periodically submit to the Federal Reserve and the FDIC a resolution plan that describes our strategy for a rapid and orderly resolution under the U.S. Bankruptcy Code in the event of our material financial distress or failure. Our preferred resolution strategy, which is set out in our 2017 resolution plan, is an SPOE strategy. An SPOE strategy generally contemplates the provision of additional capital and liquidity by the Parent Company to certain of its subsidiaries so that such subsidiaries have the resources necessary to implement the resolution strategy after the Parent Company has filed for bankruptcy.

Certain of our domestic and foreign subsidiaries are also subject to resolution and recovery planning requirements in the jurisdictions in which they operate. For example the FDIC requires certain insured depository institutions ("IDIs"), including our U.S. Bank Subsidiaries, to submit an annual resolution plan that describes the IDI's strategy for a rapid and orderly resolution in the event of material financial distress or failure of the IDI (an "IDI plan").

Further, we are required to submit an annual recovery plan to the Federal Reserve that outlines the steps that management could take over time to generate or conserve financial resources in times of prolonged financial stress.

In December 2018, the OCC finalized revisions to its recovery planning guidelines for national banks and certain other institutions that increase the threshold at which the guidelines apply from $50 billion to $250 billion in total consolidated assets. As a result, our U.S. Bank Subsidiaries are no longer required to prepare recovery plans.

In addition, certain financial companies, including BHCs such as the Firm and certain of its covered subsidiaries, can be subjected to a resolution proceeding under the orderly liquidation authority in Title II of the Dodd-Frank Act with the FDIC being appointed as receiver, provided that certain procedures are met, including certain extraordinary financial distress and systemic risk determinations by the U.S. Treasury Secretary in consultation with the U.S. President. The orderly liquidation authority rulemaking is proceeding in stages, with some regulations now finalized and others not yet proposed. If we were subject to the orderly liquidation authority, the FDIC would have considerable powers, including: the power to remove directors and officers responsible for our failure and to appoint new directors and officers; the power to assign our assets and liabilities to a third party or bridge financial company without the need for creditor consent or prior court review; the ability to differentiate among our creditors, including by treating certain creditors within the same class better than others, subject to a minimum recovery right on the part of disfavored creditors to receive at least what they would have received in bankruptcy liquidation; and broad powers to administer the claims process to determine distributions from the assets of the receivership. The FDIC has been developing an SPOE strategy that could be used to implement the orderly liquidation authority.

Regulators have also taken and proposed various actions to facilitate an SPOE strategy under the U.S. Bankruptcy Code, the orderly liquidation authority or other resolution regimes.

For example, the Federal Reserve has established rules that impose contractual requirements on certain qualified financial contracts ("covered QFCs") to which U.S. G-SIBs, including us, and their subsidiaries are parties. The OCC has also established rules that impose substantively identical requirements on national banks that are subsidiaries of U.S. G-SIBs, including our U.S. Bank Subsidiaries, as well as certain other institutions (together with the entities covered by the Federal Reserve's rules, the "covered entities"). Under these rules, covered QFCs must expressly provide that transfer restrictions and default rights against covered entities are limited to the same extent as they would be under the Federal Deposit Insurance Act and Title II of the Dodd-Frank Act and their implementing regulations. In addition, covered QFCs may not, among other things, permit the exercise of any cross-default right against covered entities based on an affiliate's entry into insolvency, resolution or similar proceedings, subject to certain creditor protections. There is a phased-in compliance schedule based on counterparty type, and the first compliance date was January 1, 2019.

For more information about our resolution plan-related submissions and associated regulatory actions, see "Risk Factors—Legal, Regulatory and Compliance Risk", "Management's Discussion and Analysis of Financial Condition and Results of Operations—Regulatory Requirements—Total Loss-Absorbing Capacity, Long-Term Debt and Clean Holding Company Requirements" and "Management's Discussion and Analysis of Financial Condition and Results of Operations—Liquidity and Capital Resources—Regulatory Requirements—Resolution and Recovery Planning."

Cyber and Information Security Risk Management

As a general matter, the financial services industry faces increased global regulatory focus regarding cyber and information security risk management practices. Many aspects of our businesses are subject to cybersecurity legal and regulatory requirements enacted by U.S. federal and state governments and other non-U.S. jurisdictions in the Americas, Europe, the Middle East, Africa and Asia. These laws are aimed at codifying basic cybersecurity protections and mandating data breach notification requirements.

Our businesses are also subject to privacy and data protection information security legal requirements concerning the use and protection of certain personal information. For example, the General Data Protection Regulation ("GDPR") became effective in the E.U. on May 25, 2018 as a replacement for the E.U. Data Protection Directive. The GDPR imposes mandatory breach notification obligations, including significant fines for noncompliance, enhanced governance and accountability requirements and has extraterritorial impact. In addition, other jurisdictions have adopted or are proposing GDPR or similar standards, such as California, Australia, Singapore, Japan, Colombia, Argentina, India, Turkey, Hong Kong, Brazil, Russia and Switzerland.

Protection of Client Information

Many aspects of our businesses are subject to legal requirements concerning the use and protection of certain customer information. These include those adopted pursuant to the Gramm-Leach-Bliley Act and the Fair and Accurate Credit Transactions Act of 2003 in the U.S., the GDPR and various laws in Asia, including the Japanese Personal Information Protection Law, the Hong Kong Personal Data (Protection) Ordinance and the Australian Privacy Act. We have adopted measures designed to comply with these and related applicable requirements in all relevant jurisdictions.

U.S. Bank Subsidiaries

U.S. Bank Subsidiaries. MSBNA, primarily a wholesale commercial bank, offers commercial lending and certain retail securities-based lending services in addition to deposit products, and also conducts certain foreign exchange activities.

MSPBNA offers certain mortgage and other secured lending products, including retail securities-based lending products, primarily for customers of our affiliate retail broker-dealer, Morgan Stanley Smith Barney LLC ("MSSB LLC"). MSPBNA also offers certain deposit products and prime brokerage custody services.

Both MSBNA and MSPBNA are FDIC-insured national banks subject to supervision, regulation and examination by the OCC. They are both subject to the OCC's risk governance guidelines, which establish heightened standards for a large national bank's risk governance framework and the oversight of that framework by the bank's board of directors.

Prompt Corrective Action. The Federal Deposit Insurance Corporation Improvement Act of 1991 provides a framework for regulation of depository institutions and their affiliates, including parent holding companies, by their federal banking regulators. Among other things, it requires the relevant federal banking regulator to take prompt corrective action with respect to a depository institution if that institution does not meet certain capital adequacy standards. These regulations generally apply only to insured banks and thrifts such as MSBNA or MSPBNA and not to their parent holding companies. The Federal Reserve is, however, separately authorized to take appropriate action at the holding company level, subject to certain limitations. Under the systemic risk regime, as described above, we also would become subject to an early remediation protocol in the event of financial distress. In addition, BHCs, such as Morgan Stanley, are required to serve as a source of strength to their U.S. bank subsidiaries and commit resources to support these subsidiaries in the event such subsidiaries are in financial distress.

Transactions with Affiliates. Our U.S. Bank Subsidiaries are subject to Sections 23A and 23B of the Federal Reserve Act, which impose restrictions on “covered transactions” with any affiliates. Covered transactions include any extension of credit to, purchase of assets from, and certain other transactions by insured banks with an affiliate. These restrictions limit the total amount of credit exposure that our U.S. Bank Subsidiaries may have to any one affiliate and to all affiliates. Sections 23A and 23B also set collateral requirements and require all such transactions to be made on market terms. Derivatives, securities borrowing and securities lending transactions between our U.S. Bank Subsidiaries and their affiliates are subject to these restrictions. The Federal Reserve has indicated that it will propose a rulemaking to implement changes to these restrictions made by the Dodd-Frank Act.

In addition, the Volcker Rule generally prohibits covered transactions between (i) us or any of our affiliates and (ii) covered funds for which we or any of our affiliates serve as the investment manager, investment adviser, commodity trading advisor or sponsor, or other covered funds organized and offered by us or any of our affiliates pursuant to specific exemptions in the Volcker Rule. See also “Financial Holding Company—Activities Restriction under the Volcker Rule” above.

FDIC Regulation. An FDIC-insured depository institution is generally liable for any loss incurred or expected to be incurred by the FDIC in connection with the failure of an insured depository institution under common control by the same BHC. As commonly controlled FDIC-insured depository institutions, each of MSBNA and MSPBNA could be responsible for any loss to the FDIC from the failure of the other. In addition, both institutions are exposed to changes in the cost of FDIC insurance.

Institutional Securities and Wealth Management

Broker-Dealer and Investment Adviser Regulation. Our primary U.S. broker-dealer subsidiaries, Morgan Stanley & Co. LLC (“MS&Co.”) and MSSB LLC, are registered broker-dealers with the SEC and in all 50 states, the District of Columbia, Puerto Rico and the U.S. Virgin Islands, and are members of various self-regulatory organizations, including FINRA, and various securities exchanges and clearing organizations. Broker-dealers are subject to laws and regulations covering all aspects of the securities business, including sales and trading practices, securities offerings, publication of research reports, use of customers’ funds and securities, capital structure, risk management controls in connection with market access, recordkeeping and retention, and the conduct of their directors, officers, representatives and other associated persons. Broker-dealers are also regulated by securities administrators in those states where they do business. Violations of the laws and regulations governing a broker-dealer’s actions could result in censures, fines, the issuance of cease-and-desist orders, revocation of licenses or registrations, the suspension or expulsion from the securities industry of such broker-dealer or its officers or employees, or other similar consequences by both federal and state securities administrators. Our broker-dealer subsidiaries are also members of the Securities Investor Protection Corporation, which provides certain protections for customers of broker-dealers against losses in the event of the insolvency of a broker-dealer.

MSSB LLC is also a registered investment adviser with the SEC. MSSB LLC’s relationship with its investment advisory clients is subject to the fiduciary and other obligations imposed on investment advisers under the Investment Advisers Act of 1940, and the rules and regulations promulgated thereunder as well as various state securities laws. These laws and regulations generally grant the SEC and other supervisory bodies broad administrative powers to address non-compliance, including the power to restrict or limit MSSB LLC from carrying on its investment advisory and other asset management activities. Other sanctions that may be imposed include the suspension of individual employees, limitations on engaging in certain activities for specified periods of time or for specified types of clients, the revocation of registrations, other censures and significant fines.

The Firm is subject to various regulations that affect broker-dealer sales practices and customer relationships. For example, under the Dodd-Frank Act, the SEC is authorized to impose a fiduciary duty rule applicable to broker-dealers when providing personalized investment advice about securities to retail customers. The SEC released for public comment a package of proposed rulemaking on the standards of conduct and required disclosures for broker-dealers and investment advisers. One of the proposals, entitled “Regulation Best Interest,” would require broker-dealers to act in the “best interest” of retail customers at the time a recommendation is made without placing the financial or other interests of the broker-dealer ahead of the interest of the retail customer. Additionally, the SEC proposed a new requirement for both broker-dealers and investment advisers to provide a brief relationship summary to retail investors with information intended to clarify the relationship between the parties. The SEC issued a proposed interpretation regarding the fiduciary duty that investment advisers owe their clients. None of these proposals have yet been finalized.

Margin lending by broker-dealers is regulated by the Federal Reserve's restrictions on lending in connection with customer and proprietary purchases and short sales of securities, as well as securities borrowing and lending activities. Broker-dealers are also subject to maintenance and other margin requirements imposed under FINRA and other self-regulatory organization rules. In many cases, our broker-dealer subsidiaries' margin policies are more stringent than these rules.

As registered U.S. broker-dealers, certain of our subsidiaries are subject to the SEC's net capital rule and the net capital requirements of various exchanges, other regulatory authorities and self-regulatory organizations. These rules are generally designed to measure the broker-dealer subsidiary's general financial integrity and/or liquidity and require that at least a minimum amount of net and/or liquid assets be maintained by the subsidiary. See also "Financial Holding Company—Consolidated Supervision" and "Financial Holding Company—Liquidity Standards" above. Rules of FINRA and other self-regulatory organizations also impose limitations and requirements on the transfer of member organizations' assets.

Research. Research-related regulations have been implemented in many jurisdictions, including in the U.S., where FINRA has adopted rules that cover research relating to both equity and debt securities. In addition, European regulators have introduced new requirements in the Markets in Financial Instruments Directive II ("MiFID II") relating to the unbundling of research services and execution services. Both U.S. and non-U.S. regulators continue to focus on research conflicts of interest and may impose additional regulations.

Regulation of Futures Activities and Certain Commodities Activities. MS&Co., as a futures commission merchant, and MSSB LLC, as an introducing broker, are subject to net capital requirements of, and certain of their activities are regulated by, the CFTC, the NFA, CME Group, and various commodity futures exchanges. MS&Co. and MSSB LLC and certain of their affiliates are registered members of the NFA in various capacities. Rules and regulations of the CFTC, NFA and commodity futures exchanges address obligations related to, among other things, customer protections, the segregation of customer funds and the holding of secured amounts, the use by futures commission merchants of customer funds, recordkeeping and reporting obligations of futures commission merchants and introducing brokers, risk disclosure, risk management and discretionary trading.

Our commodities activities are subject to extensive and evolving energy, commodities, environmental, health and safety, and other governmental laws and regulations in the U.S. and abroad. Intensified scrutiny of certain energy markets by U.S. federal, state and local authorities in the U.S. and abroad and by the public has resulted in increased regulatory and legal enforcement and remedial proceedings involving companies conducting the activities in which we are engaged.

Derivatives Regulation. Under the U.S. regulatory regime for "swaps" and "security-based swaps" (collectively, "Swaps") implemented pursuant to the Dodd-Frank Act, we are subject to regulations including, among others, public and regulatory reporting, central clearing and mandatory trading on regulated exchanges or execution facilities for certain types of Swaps. The CFTC has completed the majority of its regulations in this area, most of which are in effect. The SEC has also finalized many of its Swaps regulations, although a significant number are not yet in effect. The Dodd-Frank Act also requires the registration of "swap dealers" with the CFTC and "security-based swap dealers" with the SEC. Certain of our subsidiaries have registered with the CFTC as swap dealers and will in the future be required to register with the SEC as security-based swap dealers. Such Swaps Entities are or will be subject to a comprehensive regulatory regime with new obligations for the Swaps activities for which they are registered, including capital requirements, margin requirements for uncleared Swaps and comprehensive business conduct rules. Each of the CFTC and SEC have proposed rules to impose capital standards on Swaps Entities subject to its respective jurisdiction, which include our subsidiaries, but these rules have not yet been finalized.

The specific parameters of some of these requirements for Swaps have been and continue to be developed through the CFTC, SEC and bank regulator rulemakings. In 2015, the federal banking regulators and the CFTC separately issued final rules establishing uncleared swap margin requirements for Swaps Entities subject to their respective regulation, including MSBNA, Morgan Stanley Capital Services LLC and Morgan Stanley & Co. International plc ("MSIP"), respectively. The variation margin requirements under these rules were effective as of March 1, 2017. The rules phase-in initial margin requirements from September 1, 2016 through September 1, 2020, depending on the level of OTC derivatives activity of the swap dealer and the relevant counterparty. Margin rules with the same or similar compliance dates have been adopted or are in the process of being finalized by regulators outside the U.S., and certain of our subsidiaries may be subject to such rules.

Although important areas within the global derivatives regulatory framework have been finalized in recent years, additional changes are expected. For example, in November 2018, the CFTC proposed revisions to the rules governing swap execution facilities. As the derivatives regulatory framework evolves, we expect to continue to face increased costs and regulatory oversight. Complying with registration and other regulatory requirements has required, and is expected to require in the future, systems and other changes. Compliance with Swaps-related regulatory capital requirements may also require us to devote more capital to our Swaps business.

Our Institutional Securities and Wealth Management business segment activities are also regulated in jurisdictions outside the U.S. See “Non-U.S. Regulation” herein.

Investment Management

Many of the subsidiaries engaged in our asset management activities are registered as investment advisers with the SEC. Many aspects of our asset management activities are also subject to federal and state laws and regulations primarily intended to benefit the investor or client. These laws and regulations generally grant supervisory agencies and bodies broad administrative powers, including the power to limit or restrict us from carrying on our asset management activities in the event that we fail to comply with such laws and regulations. Sanctions that may be imposed for such failure include the suspension of individual employees, limitations on our engaging in various asset management activities for specified periods of time or specified types of clients, the revocation of registrations, other censures and significant fines. In order to facilitate our asset management business, a U.S. broker-dealer subsidiary of ours, Morgan Stanley Distribution, Inc., acts as distributor to the Morgan Stanley mutual funds and as placement agent to certain private investment funds managed by our Investment Management business segment.

Our asset management activities are subject to certain additional laws and regulations, including, but not limited to, additional reporting and recordkeeping requirements (including with respect to clients that are private funds) and restrictions on sponsoring or investing in, or maintaining certain other relationships with, “covered funds,” as defined in the Volcker Rule, subject to certain limited exemptions. Many of these requirements have increased the expenses associated with our asset management activities and/or reduced the investment returns we are able to generate for us and our asset management clients. See also “Financial Holding Company—Activities Restrictions under the Volcker Rule.”

In addition, certain of our affiliates are registered as commodity trading advisors and/or commodity pool operators, or are operating under certain exemptions from such registration pursuant to CFTC rules and other guidance, and have certain responsibilities with respect to each pool they advise. Violations of the rules of the CFTC, the NFA or the commodity exchanges could result in remedial actions, including fines, registration restrictions or terminations, trading prohibitions or revocations of commodity exchange memberships. See also “Institutional Securities and Wealth Management—Broker-Dealer and Investment Adviser Regulation,” “Institutional Securities and Wealth Management—Regulation of Futures Activities and Certain Commodities Activities,” and “Institutional Securities and Wealth Management—Derivatives Regulation” above and “Non-U.S. Regulation,” below for a discussion of other regulations that impact our Investment Management business activities, including MiFID II.

Our Investment Management business activities are also regulated outside the U.S. For example, the U.K. Financial Conduct Authority (“FCA”) is the primary regulator of our business in the U.K.; the Financial Services Agency regulates our business in Japan; the Securities and Futures Commission of Hong Kong regulates our business in Hong Kong; and the Monetary Authority of Singapore regulates our business in Singapore. See also “Non-U.S. Regulation” herein.

Non-U.S. Regulation

All of our businesses are regulated extensively by non-U.S. regulators, including governments, securities exchanges, commodity exchanges, self-regulatory organizations, central banks and regulatory bodies, especially in those jurisdictions in which we maintain an office. Certain regulators have prudential, conduct and other authority over us or our subsidiaries, as well as powers to limit or restrict us from engaging in certain businesses or to conduct administrative proceedings that can result in censures, fines, the issuance of cease-and-desist orders, or the suspension or expulsion of a regulated entity or its affiliates.

Some of our subsidiaries are regulated as broker-dealers and other regulated entity types under the laws of the jurisdictions in which they operate. Subsidiaries engaged in banking and trust activities outside the U.S. are regulated by various government agencies in the particular jurisdiction where they are chartered, incorporated and/or conduct their business activity. For instance, the PRA, the FCA and several securities and futures exchanges in the U.K., including the London Stock Exchange and ICE Futures Europe, regulate our activities in the U.K.; the Bundesanstalt für Finanzdienstleistungsaufsicht (the Federal Financial Supervisory Authority) and the Deutsche Börse AG regulate our activities in the Federal Republic of Germany; the Financial Services Agency, the Bank of Japan, the Japan Securities Dealers Association and several Japanese securities and futures exchanges and ministries regulate our activities in Japan; the Securities and Futures Commission of Hong Kong, the Hong Kong Monetary Authority and the Hong Kong Exchanges and Clearing Limited regulate our operations in Hong Kong; and the

Monetary Authority of Singapore and the Singapore Exchange Limited regulate our business in Singapore.

Our largest non-U.S. entity, MSIP, is subject to extensive regulation and supervision by the PRA, which has broad legal authority to establish prudential and other standards applicable to MSIP that seek to ensure its safety and soundness and to minimize adverse effects on the stability of the U.K. financial system. MSIP is also regulated and supervised by the FCA with respect to business conduct matters.

Non-U.S. policymakers and regulators, including the European Commission and European Supervisory Authorities (among others, the European Banking Authority and the European Securities and Markets Authority), continue to propose and adopt numerous reforms, including those that may further impact the structure of banks or subject us to new prudential requirements, and to formulate regulatory standards and measures that will be of relevance and importance to our European operations.

In November 2016, the European Commission published a package of proposals including various risk reduction measures. These include proposed amendments to the Capital Requirements Directive and Regulation providing updates to risk-based capital, liquidity, leverage and other prudential standards on a consolidated basis, consistent with final Basel standards. In addition, the proposals would require certain large, non-E.U. financial groups with two or more institutions established in the E.U. to establish an E.U. IHC. The proposals would require E.U. banks and broker-dealers to be held below the E.U. IHC; until more specific regulations are proposed, it remains unclear which other E.U. entities would need to be held beneath the E.U. IHC. The E.U. IHC would be subject to direct supervision and authorization by the European Central Bank or the relevant national E.U. regulator. Further amendments were also proposed to the E.U. bank recovery and resolution regime under the E.U. Bank Recovery and Resolution Directive ("BRRD"). It is expected that the proposals will be adopted in early 2019, however their final form, as well as the date of their adoption, is not yet certain.

The amendments to the BRRD build on previous proposals by regulators in the U.K., E.U. and other major jurisdictions to finalize recovery and resolution planning frameworks and related regulatory requirements that will apply to certain of our subsidiaries that operate in those jurisdictions. For instance, the BRRD established a recovery and resolution framework for E.U. credit institutions and investment firms, including MSIP. In addition, certain jurisdictions, including the U.K. and other E.U. jurisdictions, have implemented, or are in the process of implementing, changes to resolution regimes to provide resolution authorities with the ability to recapitalize a failing entity organized in such jurisdictions by writing down certain unsecured liabilities or converting certain unsecured liabilities into equity.

Regulators in the U.K., E.U. and other major jurisdictions have also finalized other regulatory standards applicable to certain of our subsidiaries that operate in those jurisdictions. For instance, the European Market Infrastructure Regulation introduced new requirements regarding the central clearing and reporting of derivatives, as well as margin requirements for uncleared derivatives. MiFID II, which took effect on January 3, 2018, introduced comprehensive and new trading and market infrastructure reforms in the E.U., including new trading venues, enhancements to pre- and post-trading transparency, and additional investor protection requirements, among others. We have had to make extensive changes to our operations, including systems and controls in order to comply with MiFID II.

Financial Crimes Program

Our Financial Crimes program is coordinated on an enterprise-wide basis and supports our financial crime prevention efforts across all regions and business units with responsibility for governance, oversight and execution of our AML, economic sanctions ("Sanctions") and anti-corruption programs.

In the U.S., the Bank Secrecy Act, as amended by the USA PATRIOT Act of 2001, imposes significant obligations on financial institutions to detect and deter money laundering and terrorist financing activity, including requiring banks, BHCs and their subsidiaries, broker-dealers, futures commission merchants, introducing brokers and mutual funds to implement AML programs, verify the identity of customers that maintain accounts, and monitor and report suspicious activity to appropriate law enforcement or regulatory authorities. Outside the U.S., applicable laws, rules and regulations similarly require designated types of financial institutions to implement AML programs.

We have implemented policies, procedures and internal controls that are designed to comply with all applicable AML laws and regulations. Regarding Sanctions, we have implemented policies, procedures and internal controls that are designed to comply with the regulations and economic sanctions programs administered by the U.S. Treasury's Office of Foreign Assets Control ("OFAC"), which target foreign countries, entities and individuals based on external threats to U.S. foreign policy, national security or economic interests, and to comply, as applicable, with similar sanctions programs imposed by foreign governments or global or regional multilateral organizations such as the United Nations Security Council and the E.U. Council.

We are also subject to applicable anti-corruption laws, such as the U.S. Foreign Corrupt Practices Act and the U.K. Bribery Act, in the jurisdictions in which we operate. Anti-corruption laws generally prohibit offering, promising, giving or authorizing others to give anything of value, either directly or indirectly, to a government official or private party in order to influence official action or otherwise gain an unfair business advantage, such as to obtain or retain business. We have implemented policies, procedures and internal controls that are designed to comply with such laws, rules and regulations.

Executive Officers of Morgan Stanley

The executive officers of Morgan Stanley and their age and titles as of February 26, 2019 are set forth below. Business experience is provided in accordance with SEC rules.

Jeffrey S. Brodsky (54). Executive Vice President and Chief Human Resources Officer of Morgan Stanley (since January 2016). Vice President and Global Head of Human Resources (January 2011 to December 2015). Co-Head of Human Resources (January 2010 to December 2011). Head of Morgan Stanley Smith Barney Human Resources (June 2009 to January 2010).

James P. Gorman (60). Chairman of the Board of Directors and Chief Executive Officer of Morgan Stanley (since January 2012). President and Chief Executive Officer (January 2010 to December 2011) and member of the Board of Directors (since January 2010). Co-President (December 2007 to December 2009) and Co-Head of Strategic Planning (October 2007 to December 2009). President and Chief Operating Officer of Wealth Management (February 2006 to April 2008).

Eric F. Grossman (52). Executive Vice President and Chief Legal Officer of Morgan Stanley (since January 2012). Global Head of Legal (September 2010 to January 2012). Global Head of Litigation (January 2006 to September 2010) and General Counsel of the Americas (May 2009 to September 2010). General Counsel of Wealth Management (November 2008 to September 2010). Partner at the law firm of Davis Polk & Wardwell LLP (June 2001 to December 2005).

Keishi Hotsuki (56). Executive Vice President (since May 2014) and Chief Risk Officer of Morgan Stanley (since May 2011). Interim Chief Risk Officer (January 2011 to May 2011) and Head of Market Risk Department (March 2008 to April 2014). Director of Mitsubishi UFJ Morgan Stanley Securities Co., Ltd. (since May 2010). Global Head of Market Risk Management at Merrill Lynch (June 2005 to September 2007).

Colm Kelleher (61). President of Morgan Stanley (since January 2016). Executive Vice President (October 2007 to January 2016). President of Institutional Securities (January 2013 to January 2016). Head of International (January 2011 to January 2016). Co-President of Institutional Securities (January 2010 to December 2012). Chief Financial Officer and Co-Head of Strategic Planning (October 2007 to December 2009). Head of Global Capital Markets (February 2006 to October 2007). Co-Head of Fixed Income Europe (May 2004 to February 2006). Director of Norfolk Southern Corporation (since January 2019).

Jonathan M. Pruzan (50). Executive Vice President and Chief Financial Officer of Morgan Stanley (since May 2015) and Head of Corporate Strategy (since December 2016). Co-Head of Global Financial Institutions Group (January 2010 to April 2015). Co-Head of North American Financial Institutions Group M&A (September 2007 to December 2009). Head of the U.S. Bank Group (April 2005 to August 2007).

Daniel A. Simkowitz (53). Head of Investment Management of Morgan Stanley (since October 2015). Co-Head of Global Capital Markets (March 2013 to September 2015). Chairman of Global Capital Markets (November 2009 to March 2013). Managing Director in Global Capital Markets (December 2000 to November 2009).

Risk Factors

For a discussion of the risks and uncertainties that may affect our future results and strategic objectives, see "Forward-Looking Statements" immediately preceding "Business" and "Return on Equity and Tangible Common Equity Targets" under "Management's Discussion and Analysis of Financial Condition and Results of Operations."

Market Risk

Market risk refers to the risk that a change in the level of one or more market prices, rates, indices, volatilities, correlations or other market factors, such as market liquidity, will result in losses for a position or portfolio owned by us. For more information on how we monitor and manage market risk, see "Quantitative and Qualitative Disclosures about Risk—Risk Management—Market Risk."

Our results of operations may be materially affected by market fluctuations and by global and economic conditions and other factors, including changes in asset values.

Our results of operations have been in the past and may, in the future, be materially affected by market fluctuations due to global financial markets, economic conditions, changes to the global trade policies and tariffs and other factors, including the level and volatility of equity, fixed income and commodity prices, the level and term structure of interest rates, inflation and currency values, and the level of other market indices.

The results of our Institutional Securities business segment, particularly results relating to our involvement in primary and secondary markets for all types of financial products, are subject to substantial market fluctuations due to a variety of factors that we cannot control or predict with great certainty. These fluctuations impact results by causing variations in business flows and activity and in the fair value of securities and other financial products. Fluctuations also occur due to the level of global market activity, which, among other things, affects the size, number and timing of investment banking client assignments and transactions and the realization of returns from our principal investments.

During periods of unfavorable market or economic conditions, the level of individual investor participation in the global markets, as well as the level of client assets, may also decrease, which would negatively impact the results of our Wealth Management business segment.

In addition, fluctuations in global market activity could impact the flow of investment capital into or from AUM and the way customers allocate capital among money market, equity, fixed income or other investment alternatives, which could negatively impact our Investment Management business segment.

The value of our financial instruments may be materially affected by market fluctuations. Market volatility, illiquid market conditions and disruptions in the credit markets may make it extremely difficult to value and monetize certain of our financial instruments, particularly during periods of market displacement. Subsequent valuations in future periods, in light of factors then prevailing, may result in significant changes in the values of these instruments and may adversely impact historical or prospective fees and performance-based fees (also known as incentive fees, which include carried interest) in respect of certain businesses. In addition, at the time of any sales and settlements of these financial instruments, the price we ultimately realize will depend on the demand and liquidity in the market at that time and may be materially lower than their current fair value. Any of these factors could cause a decline in the value of our financial instruments, which may have an adverse effect on our results of operations in future periods.

In addition, financial markets are susceptible to severe events evidenced by rapid depreciation in asset values accompanied by a reduction in asset liquidity. Under these extreme conditions, hedging and other risk management strategies may not be as effective at mitigating trading losses as they would be under more normal market conditions. Moreover, under these conditions, market participants are particularly exposed to trading strategies employed by many market participants simultaneously and on a large scale. Our risk management and monitoring processes seek to quantify and mitigate risk to more extreme market moves. However, severe market events have historically been difficult to predict and we could realize significant losses if extreme market events were to occur.

Holding large and concentrated positions may expose us to losses.

Concentration of risk may reduce revenues or result in losses in our market-making, investing, block trading, underwriting and lending businesses in the event of unfavorable market movements, or when market conditions are more favorable for our competitors. We commit substantial amounts of capital to these businesses, which often results in our taking large positions in the securities of, or making large loans to, a particular issuer or issuers in a particular industry, country or region. For further information regarding our country risk exposure, see also "Quantitative and Qualitative Disclosures about Risk—Risk Management—Credit Risk—Country Risk Exposure."

Credit Risk

Credit risk refers to the risk of loss arising when a borrower, counterparty or issuer does not meet its financial obligations to us. For more information on how we monitor and manage credit risk, see “Quantitative and Qualitative Disclosures about Risk—Risk Management—Credit Risk.”

We are exposed to the risk that third parties that are indebted to us will not perform their obligations.

We incur significant credit risk exposure through our Institutional Securities business segment. This risk may arise from a variety of business activities, including, but not limited to: extending credit to clients through various lending commitments; entering into swap or other derivative contracts under which counterparties have obligations to make payments to us; providing short- or long-term funding that is secured by physical or financial collateral whose value may at times be insufficient to fully cover the loan repayment amount; posting margin and/or collateral and other commitments to clearing houses, clearing agencies, exchanges, banks, securities firms and other financial counterparties; and investing and trading in securities and loan pools, whereby the value of these assets may fluctuate based on realized or expected defaults on the underlying obligations or loans.

We also incur credit risk in our Wealth Management business segment lending to mainly individual investors, including, but not limited to, margin- and securities-based loans collateralized by securities, residential mortgage loans and HELOCs.

While we believe current valuations and reserves adequately address our perceived levels of risk, adverse economic conditions may negatively impact our clients and our credit exposures. In addition, as a clearing member of several central counterparties, we finance our customer positions and could be held responsible for the defaults or misconduct of our customers. Although we regularly review our credit exposures, default risk may arise from events or circumstances that are difficult to detect or foresee.

A default by a large financial institution could adversely affect financial markets.

The commercial soundness of many financial institutions may be closely interrelated as a result of credit, trading, clearing or other relationships among the institutions. Increased centralization of trading activities through particular clearing houses, central agents or exchanges as required by provisions of the Dodd-Frank Act may increase our concentration of risk with respect to these entities. As a result, concerns about, or a default or threatened default by, one institution could lead to significant market-wide liquidity and credit problems, losses or defaults by other institutions. This is sometimes referred to as “systemic risk” and may adversely affect financial intermediaries, such as clearing houses, clearing agencies, exchanges, banks and securities firms, with which we interact on a daily basis and, therefore, could adversely affect us. See also “Systemic Risk Regime” under “Business—Supervision and Regulation—Financial Holding Company.”

Operational Risk

Operational risk refers to the risk of loss, or of damage to our reputation, resulting from inadequate or failed processes or systems, from human factors or from external events (e.g., fraud, theft, legal and compliance risks, cyber attacks or damage to physical assets). We may incur operational risk across the full scope of our business activities, including revenue-generating activities (e.g., sales and trading) and support and control groups (e.g., information technology and trade processing). Legal, regulatory and compliance risk is included in the scope of operational risk and is discussed below under “Legal, Regulatory and Compliance Risk.” For more information on how we monitor and manage operational risk, see “Quantitative and Qualitative Disclosures about Risk—Risk Management—Operational Risk.”

We are subject to operational risks, including a failure, breach or other disruption of our operations or security systems or those of our third parties (or third parties thereof), which could adversely affect our businesses or reputation.

Our businesses are highly dependent on our ability to process and report, on a daily basis, a large number of transactions across numerous and diverse markets in many currencies. We may introduce new products or services or change processes or reporting, including in connection with new regulatory requirements, resulting in new operational risk that we may not fully appreciate or identify.

The trend toward direct access to automated, electronic markets and the move to more automated trading platforms has resulted in the use of increasingly complex technology that relies on the continued effectiveness of the programming code and integrity of the data to process the trades. We rely on the ability of our employees, consultants, our internal systems and systems at technology centers maintained by unaffiliated third parties to operate our different businesses and process a high volume of transactions. Additionally, we are subject to complex and evolving laws and regulations governing cybersecurity, privacy and data protection, which may differ and potentially conflict, in various jurisdictions.

As a major participant in the global capital markets, we face the risk of incorrect valuation or risk management of our trading positions due to flaws in data, models, electronic trading systems or processes or due to fraud or cyber attack.

We also face the risk of operational failure or termination of any of the clearing agents, exchanges, clearing houses or other financial intermediaries we use to facilitate our lending, securities and derivatives transactions. In the event of a breakdown or improper operation of our or a direct or indirect third party's systems (or third parties thereof) or processes or improper or unauthorized action by third parties, including consultants and subcontractors or our employees, we could suffer financial loss, an impairment to our liquidity position, a disruption of our businesses, regulatory sanctions or damage to our reputation. In addition, the interconnectivity of multiple financial institutions with central agents, exchanges and clearing houses, and the increased importance of these entities, increases the risk that an operational failure at one institution or entity may cause an industry-wide operational failure that could materially impact our ability to conduct business. Furthermore, the concentration of company and personal information held by a handful of third parties increases the risk that a breach at a key third party may cause an industry-wide data breach that could significantly increase the cost and risk of conducting business.

Despite the business contingency and security response plans we have in place, there can be no assurance that such plans fully mitigate all potential risks to us. Our ability to conduct business may be adversely affected by a disruption in the infrastructure that supports our business and the communities where we are located, which are concentrated in the New York metropolitan area, London, Hong Kong and Tokyo, as well as Mumbai, Budapest, Glasgow and Baltimore. This may include a disruption involving physical site access, cybersecurity incidents, terrorist activities, disease pandemics, catastrophic events, natural disasters, extreme weather events, electrical outage, environmental hazard, computer servers, communications or other services we use, our employees or third parties with whom we conduct business.

Although we employ backup systems for our data, those backup systems may be unavailable following a disruption, the affected data may not have been backed up or may not be recoverable from the backup, or the backup data may be costly to recover, which could adversely affect our business.

A cyber attack, information or security breach or a technology failure could adversely affect our ability to conduct our business, manage our exposure to risk or result in disclosure or misuse of confidential or proprietary information and otherwise adversely impact our results of operations, liquidity and financial condition, as well as cause reputational harm.

We maintain a significant amount of personal information on our customers, clients, employees and certain counterparties that we are required to protect under various state, federal and international data protection and privacy laws. These laws may be in conflict with one another, or courts and regulators may interpret them in ways that we had not anticipated or that adversely affect our business.

Cybersecurity risks for financial institutions have significantly increased in recent years in part because of the proliferation of new technologies, the use of the internet and mobile telecommunications technologies to conduct financial transactions, and the increased sophistication and activities of organized crime, hackers, terrorists and other external extremist parties, including foreign state actors, in some circumstances as a means to promote political ends. In addition to the growing sophistication of certain parties, the commoditization of cyber tools which are able to be weaponized by less sophisticated actors has led to an increase in the exploitation of technological vulnerabilities. Any of these parties may also attempt to fraudulently induce employees, customers, clients, vendors or other third parties or users of our systems to disclose sensitive information in order to gain access to our data or that of our employees or clients. Cybersecurity risks may also derive from human error, fraud or malice on the part of our employees or third parties, including third party providers, or may result from accidental technological failure. In addition, third parties with whom we do business, their service providers, as well as other third parties with whom our customers do business, may also be sources of cybersecurity risks, particularly where activities of customers are beyond our security and control systems. There is no guarantee that the measures we take will provide absolute security or recoverability given the techniques used in cyber attacks are complex and frequently change, and may not be able to be anticipated.

Like other financial services firms, the Firm and its third party providers continue to be the subject of unauthorized access attacks, mishandling or misuse of information, computer viruses or malware, cyber attacks designed to obtain confidential information, destroy data, disrupt or degrade service, sabotage systems or cause other damage, denial of service attacks, data breaches and other events. There can be no assurance that such unauthorized access, mishandling or misuse of information, or cyber incidents will not occur in the future, and they could occur more frequently and on a more significant scale.

A cyber attack, information or security breach or a technology failure of ours or of a third party could jeopardize our or our clients', employees', partners', vendors' or counterparties' personal, confidential, proprietary or other information processed and stored in, and transmitted through, our and our third parties' computer systems. Furthermore, such events could cause interruptions or malfunctions in our, our clients', employees', partners', vendors', counterparties' or third parties' operations, as well as the unauthorized release, gathering, monitoring, misuse, loss or destruction of confidential, proprietary and other information of ours, our employees, our customers or of other third parties. Any of these events could result in reputational damage with our clients and the market, client dissatisfaction, additional costs to us to maintain and update our operational and security systems and infrastructure, regulatory investigations, litigation or enforcement, or regulatory fines or penalties, any of which could adversely affect our business, financial condition or results of operations.

Given our global footprint and the high volume of transactions we process, the large number of clients, partners, vendors and counterparties with which we do business, and the increasing sophistication of cyber attacks, a cyber attack, information or security breach could occur and persist for an extended period of time without detection. We expect that any investigation of a cyber attack would be inherently unpredictable and that it would take time before the completion of any investigation and before there is availability of full and reliable information. During such time we would not necessarily know the extent of the harm or how best to remediate it, and certain errors or actions could be repeated or compounded before they are discovered and remediated, all or any of which would further increase the costs and consequences of a cyber attack.

While many of our agreements with partners and third party vendors include indemnification provisions, we may not be able to recover sufficiently, or at all, under such provisions to adequately offset any losses we may incur. In addition, although we maintain insurance coverage that may, subject to policy terms and conditions, cover certain aspects of cyber and information security risks, such insurance coverage may be insufficient to cover all losses.

The cost of managing cyber and information security risks and attacks along with complying with new and increasingly expansive regulatory requirements could adversely affect our results of operations and business.

Liquidity Risk

Liquidity risk refers to the risk that we will be unable to finance our operations due to a loss of access to the capital markets or difficulty in liquidating our assets. Liquidity risk also encompasses our ability (or perceived ability) to meet our financial obligations without experiencing significant business disruption or reputational damage that may threaten our viability as a going concern. Liquidity risk also encompasses the associated funding risks triggered by the market or idiosyncratic stress events that may negatively affect our liquidity and may impact our ability to raise new funding. For more information on how we monitor and manage liquidity risk, see “Management’s Discussion and Analysis of Financial Condition and Results of Operations—Liquidity and Capital Resources” and “Quantitative and Qualitative Disclosures about Risk—Risk Management—Liquidity Risk.”

Liquidity is essential to our businesses and we rely on external sources to finance a significant portion of our operations.

Liquidity is essential to our businesses. Our liquidity could be negatively affected by our inability to raise funding in the long-term or short-term debt capital markets or our inability to access the secured lending markets. Factors that we cannot control, such as disruption of the financial markets or negative views about the financial services industry generally, including concerns regarding fiscal matters in the U.S. and other geographic areas, could impair our ability to raise funding.

In addition, our ability to raise funding could be impaired if investors or lenders develop a negative perception of our long-term or short-term financial prospects due to factors such as an incurrence of large trading losses, a downgrade by the rating agencies, a decline in the level of our business activity, if regulatory authorities take significant action against us or our industry, or we discover significant employee misconduct or illegal activity.

If we are unable to raise funding using the methods described above, we would likely need to finance or liquidate unencumbered assets, such as our investment portfolios or trading assets, to meet maturing liabilities. We may be unable to sell some of our assets or we may have to sell assets at a discount to market value, either of which could adversely affect our results of operations, cash flows and financial condition.

Our borrowing costs and access to the debt capital markets depend on our credit ratings.

The cost and availability of unsecured financing generally are impacted by our long-term and short-term credit ratings. The rating agencies continue to monitor certain issuer specific factors that are important to the determination of our credit ratings, including governance, the level and quality of earnings, capital adequacy, liquidity and funding, risk appetite and management, asset quality, strategic direction, and business mix. Additionally, the rating agencies will look at other industry-wide factors such as regulatory or legislative changes, macro-economic environment, and perceived levels of third party support, and it is possible that they could downgrade our ratings and those of similar institutions.

Our credit ratings also can have a significant impact on certain trading revenues, particularly in those businesses where longer term counterparty performance is a key consideration, such as OTC and other derivative transactions, including credit derivatives and interest rate swaps. In connection with certain OTC trading agreements and certain other agreements associated with our Institutional Securities business segment, we may be required to provide additional collateral to, or immediately settle any outstanding liability balance with, certain counterparties in the event of a credit ratings downgrade.

Termination of our trading and other agreements could cause us to sustain losses and impair our liquidity by requiring us to find other sources of financing or to make significant cash payments or securities movements. The additional collateral or termination payments which may occur in the event of a future credit rating downgrade vary by contract and can be based on ratings by either or both of Moody's Investors Service, Inc. and S&P Global Ratings. See also "Management's Discussion and Analysis of Financial Condition and Results of Operations—Liquidity and Capital Resources—Credit Ratings—Incremental Collateral or Terminating Payments upon Potential Future Rating Downgrade."

We are a holding company and depend on payments from our subsidiaries.

The Parent Company has no operations and depends on dividends, distributions and other payments from its subsidiaries to fund dividend payments and to fund all payments on its obligations, including debt obligations. Regulatory, tax restrictions or elections and other legal restrictions may limit our ability to transfer funds freely, either to or from our subsidiaries. In particular, many of our subsidiaries, including our bank and broker-dealer subsidiaries, are subject to laws, regulations and self-regulatory organization rules that limit, as well as authorize regulatory bodies to block or reduce, the flow of funds to the Parent Company, or that prohibit such transfers or dividends altogether in certain circumstances, including steps to "ring fence" entities by regulators outside of the U.S. to protect clients and creditors of such entities in the event of financial difficulties involving such entities.

These laws, regulations and rules may hinder our ability to access funds that we may need to make payments on our obligations. Furthermore, as a BHC, we may become subject to a prohibition or to limitations on our ability to pay dividends. The Federal Reserve, the OCC, and the FDIC have the authority, and under certain circumstances the duty, to prohibit or to limit the payment of dividends by the banking organizations they supervise, including us and our U.S. Bank Subsidiaries.

Our liquidity and financial condition have in the past been, and in the future could be, adversely affected by U.S. and international markets and economic conditions.

Our ability to raise funding in the long-term or short-term debt capital markets or the equity markets, or to access secured lending markets, has in the past been, and could in the future be, adversely affected by conditions in the U.S. and international markets and economies.

In particular, our cost and availability of funding in the past have been, and may in the future be, adversely affected by illiquid credit markets and wider credit spreads. Significant turbulence in the U.S., the E.U. and other international markets and economies could adversely affect our liquidity and financial condition and the willingness of certain counterparties and customers to do business with us.

Legal, Regulatory and Compliance Risk

Legal, regulatory and compliance risk includes the risk of legal or regulatory sanctions, material financial loss including fines, penalties, judgments, damages and/or settlements, or loss to reputation we may suffer as a result of our failure to comply with laws, regulations, rules, related self-regulatory organization standards and codes of conduct applicable to our business activities. This risk also includes contractual and commercial risk, such as the risk that a counterparty's performance obligations will be unenforceable. It also includes compliance with AML, anti-corruption and terrorist financing rules and regulations. For more information on how we monitor and manage legal, regulatory and compliance risk, see "Quantitative and Qualitative Disclosures about Risk—Risk Management—Legal and Compliance Risk."

The financial services industry is subject to extensive regulation, and changes in regulation will impact our business.

Like other major financial services firms, we are subject to extensive regulation by U.S. federal and state regulatory agencies and securities exchanges and by regulators and exchanges in each of the major markets where we conduct our business. These laws and regulations significantly affect the way we do business and can restrict the scope of our existing businesses and limit our ability to expand our product offerings and pursue certain investments.

The regulation of major financial firms, including the Firm, as well as of the markets in which we operate, is extensive and subject to ongoing change. We are, or will become, subject to (among other things) wide-ranging regulation and supervision, intensive scrutiny of our businesses and any plans for expansion of those businesses, limitations on new activities, a systemic risk regime that imposes heightened capital and liquidity and funding requirements and other enhanced prudential standards, resolution regimes and resolution planning requirements, requirements for maintaining minimum amounts of TLAC and external long-term debt, restrictions on activities and investments imposed by the Volcker Rule, comprehensive derivatives regulation, market structure regulation, tax regulations, antitrust laws, trade and transaction reporting obligations, and broadened fiduciary obligations.

In some areas, regulatory standards are subject to final rulemaking or transition periods or may otherwise be revised in whole or in part. Ongoing implementation of, or changes in, laws and regulations could materially impact the profitability of our businesses and the value of assets we hold, expose us to additional costs, require changes to business practices or force us to discontinue businesses, adversely affect our ability to pay dividends and repurchase our stock or require us to raise capital, including in ways that may adversely impact our shareholders or creditors.

In addition, regulatory requirements that are being imposed by foreign policymakers and regulators may be inconsistent or conflict with regulations that we are subject to in the U.S. and may adversely affect us. We expect legal and regulatory requirements to be subject to ongoing change for the foreseeable future, which may result in significant new costs to comply with new or revised requirements as well as to monitor for compliance on an ongoing basis.

The application of regulatory requirements and strategies in the U.S. or other jurisdictions to facilitate the orderly resolution of large financial institutions may pose a greater risk of loss for our security holders, and subject us to other restrictions.

Pursuant to the Dodd-Frank Act, we are required to periodically submit to the Federal Reserve and the FDIC a resolution plan that describes our strategy for a rapid and orderly resolution under the U.S. Bankruptcy Code in the event of material financial distress or failure. If the Federal Reserve and the FDIC were to jointly determine that our resolution plan submission was not credible or would not facilitate an orderly resolution, and if we were unable to address any deficiencies identified by the regulators, we or any of our subsidiaries may be subject to more stringent capital, leverage, or liquidity requirements or restrictions on our growth, activities, or operations, or after a two-year period, we may be required to divest assets or operations.

In addition, provided that certain procedures are met, we can be subject to a resolution proceeding under the orderly liquidation authority under Title II of the Dodd-Frank Act with the FDIC being appointed as receiver. The FDIC's power under the orderly liquidation authority to disregard the priority of creditor claims and treat similarly situated creditors differently in certain circumstances, subject to certain limitations, could adversely impact holders of our unsecured debt. See "Business—Supervision and Regulation" and "Management's Discussion and Analysis of Financial Condition and Results of Operations—Liquidity and Capital Resources—Regulatory Requirements."

Further, because both our resolution plan contemplates an SPOE strategy under the U.S. Bankruptcy Code and the FDIC has proposed an SPOE strategy through which it may apply its orderly liquidation authority powers, we believe that the application of an SPOE strategy is the reasonably likely outcome if either our resolution plan were implemented or a resolution proceeding were commenced under the orderly liquidation authority. An SPOE strategy generally contemplates the provision of additional capital and liquidity by the Parent Company to certain of its subsidiaries so that such subsidiaries have the resources necessary to implement the resolution strategy, and the Parent Company has entered into a secured amended and restated support agreement with its material entities, as defined in our 2017 resolution plan, pursuant to which it would provide such capital and liquidity.

Under the secured amended and restated support agreement, upon the occurrence of a resolution scenario, including one in which an SPOE strategy is used, the Parent Company will be obligated to contribute or loan on a subordinated basis all of its contributable material assets, other than shares in subsidiaries of the Parent Company and certain intercompany payables, to provide capital and liquidity, as applicable, to our material entities. The obligations of the Parent Company under the secured amended and restated support agreement are in most cases secured on a senior basis by the assets of the Parent Company (other than shares in subsidiaries of the Parent Company). As a result, claims of our material entities against the assets of the Parent Company (other than shares in subsidiaries of the Parent Company) are effectively senior to unsecured obligations of the Parent Company. Such unsecured obligations are at risk of absorbing losses of the Parent Company and its subsidiaries.

In further development of our SPOE strategy, we have created a wholly owned, direct subsidiary of the Parent Company, MS Holdings LLC ("Funding IHC"), to serve as a resolution funding vehicle. We expect that, prior to the submission of our 2019 resolution plan by July 1, 2019, the Parent Company will contribute certain of its assets to the Funding IHC and enter into an updated secured amended and restated support agreement with the Funding IHC as well as certain other subsidiaries to facilitate the execution of our SPOE strategy. Similar to the existing secured amended and restated support agreement, the updated secured amended and restated support agreement will obligate the Parent Company to transfer capital and liquidity, as revised, to the Funding IHC, and that the Parent Company and/or the Funding IHC will recapitalize and provide liquidity to material entities in the event of our material financial distress or failure.

Although an SPOE strategy, whether applied pursuant to our resolution plan or in a resolution proceeding under the orderly liquidation authority, is intended to result in better outcomes for creditors overall, there is no guarantee that the application of an SPOE strategy, including the provision of support to the Parent Company's material entities pursuant to the secured amended and restated support agreement, will not result in greater losses for holders of our securities compared to a different resolution strategy for us.

Regulators have taken and proposed various actions to facilitate an SPOE strategy under the U.S. Bankruptcy Code, the orderly liquidation authority or other resolution regimes. For example, the Federal Reserve requires top-tier BHCs of U.S. G-SIBs, including Morgan Stanley, to maintain minimum amounts of equity and eligible long-term debt TLAC in order to ensure that such institutions have enough loss-absorbing resources at the point of failure to be recapitalized through the conversion of debt to equity or otherwise by imposing losses on eligible TLAC where the SPOE strategy is used. The combined implication of the SPOE resolution strategy and the TLAC requirement is that our losses will be imposed on the holders of eligible long-term debt and other forms of eligible TLAC issued by the Parent Company before any losses are imposed on the holders of the debt securities of our operating subsidiaries or before putting U.S. taxpayers at risk.

In addition, certain jurisdictions, including the U.K. and other E.U. jurisdictions, have implemented, or are in the process of implementing, changes to resolution regimes to provide resolution authorities with the ability to recapitalize a failing entity organized in such jurisdiction by writing down certain unsecured liabilities or converting certain unsecured liabilities into equity. Such "bail-in" powers are intended to enable the recapitalization of a failing institution by allocating losses to its shareholders and unsecured creditors. Non-U.S. regulators are also considering requirements that certain subsidiaries of large financial institutions maintain minimum amounts of TLAC that would pass losses up from the subsidiaries to the Parent Company and, ultimately, to security holders of the Parent Company in the event of failure.

We may be prevented from paying dividends or taking other capital actions because of regulatory constraints or revised regulatory capital standards.

We are subject to comprehensive consolidated supervision, regulation and examination by the Federal Reserve, which requires us to submit, on an annual basis, a capital plan describing proposed dividend payments to shareholders, proposed repurchases of our outstanding securities and other proposed capital actions that we intend to take. The Federal Reserve may object to, or otherwise require us to modify, such plan, or may object or require modifications to a resubmitted capital plan, any of which would adversely affect shareholders.

In addition, beyond review of the plan, the Federal Reserve may impose other restrictions or conditions on us that prevent us from paying or increasing dividends, repurchasing securities or taking other capital actions that would benefit shareholders. Finally, the Federal Reserve may change regulatory capital standards to impose higher requirements that restrict our ability to take capital actions or may modify or impose other regulatory standards that increase our operating expenses and reduce our ability to take capital actions.

The financial services industry faces substantial litigation and is subject to extensive regulatory and law enforcement investigations, and we may face damage to our reputation and legal liability.

As a global financial services firm, we face the risk of investigations and proceedings by governmental and self-regulatory organizations in all countries in which we conduct our business. Investigations and proceedings initiated by these authorities may result in adverse judgments, settlements, fines, penalties, injunctions or other relief. In addition to the monetary consequences, these measures could, for example, impact our ability to engage in, or impose limitations on, certain of our businesses.

These investigations and proceedings, as well as the amount of penalties and fines sought, continue to impact the financial services industry and certain U.S. and international governmental entities have brought criminal actions against, or have sought criminal convictions, pleas or deferred prosecution agreements from, financial institutions. Significant regulatory or law enforcement action against us could materially adversely affect our business, financial condition or results of operations or cause us significant reputational harm, which could seriously harm our business.

The Dodd-Frank Act also provides compensation to whistleblowers who present the SEC or CFTC with information related to securities or commodities law violations that leads to a successful enforcement action. As a result of this compensation, it is possible we could face an increased number of investigations by the SEC or CFTC.

We have been named, from time to time, as a defendant in various legal actions, including arbitrations, class actions and other litigation, as well as investigations or proceedings brought by regulatory agencies, arising in connection with our activities as a global diversified financial services institution. Certain of the actual or threatened legal or regulatory actions include claims for substantial compensatory and/or punitive damages, claims for indeterminate amounts of damages, or may result in penalties, fines, or other results adverse to us.

In some cases, the issuers that would otherwise be the primary defendants in such cases are bankrupt or are in financial distress. In other cases, including antitrust litigation, we may be subject to claims for joint and several liability with other defendants for treble damages or other relief related to alleged conspiracies involving other institutions. Like any large corporation, we are also subject to risk from potential employee misconduct, including non-compliance with policies and improper use or disclosure of confidential information, or improper sales practices or conduct.

We may be responsible for representations and warranties associated with residential and commercial real estate loans and may incur losses in excess of our reserves.

We originate loans secured by commercial and residential properties. Further, we securitize and trade in a wide range of commercial and residential real estate and real estate-related whole loans, mortgages and other real estate and commercial assets and products, including residential and CMBS. In connection with these activities, we have provided, or otherwise agreed to be responsible for, certain representations and warranties. Under certain circumstances, we may be required to repurchase such assets or make other payments related to such assets if such representations and warranties were breached. We have also made representations and warranties in connection with our role as an originator of certain commercial mortgage loans that we securitized in CMBS. For additional information, see also Note 12 to the financial statements.

We currently have several legal proceedings related to claims for alleged breaches of representations and warranties. If there are decisions adverse to us in those legal proceedings, we may incur losses substantially in excess of our reserves. In addition, our reserves are based, in part, on certain factual and legal assumptions. If those assumptions are incorrect and need to be revised, we may need to adjust our reserves substantially.

Our commodities activities and investments subject us to extensive regulation, and environmental risks and regulation that may expose us to significant costs and liabilities.

In connection with the commodities activities in our Institutional Securities business segment, we execute transactions involving the storage, transportation and market-making of several commodities, including metals, natural gas, electric power, environmental attributes and other commodity products. In addition, we are an electricity power marketer in the U.S. and own a minority interest in Heidmar Holdings LLC, which owns a group of companies that provide international marine transportation and U.S. marine logistics services. These activities subject us to extensive energy, commodities, environmental, health and safety and other governmental laws and regulations.

Although we have attempted to mitigate our environmental risks by, among other measures, limiting the scope of activities involving storage and transportation, adopting appropriate policies and procedures, and implementing emergency response programs, these actions may not prove adequate to address every contingency. In addition, insurance covering some of these risks may not be available, and the proceeds, if any, from insurance recovery may not be adequate to cover liabilities with respect to particular incidents. As a result, our financial condition, results of operations and cash flows may be adversely affected by these events.

During the past several years, intensified scrutiny of certain energy markets by federal, state and local authorities in the U.S. and abroad and by the public has resulted in increased regulatory and legal enforcement, litigation and remedial proceedings involving companies conducting the activities in which we are engaged. In addition, enhanced regulation of OTC derivatives markets in the U.S. and the E.U., as well as similar legislation proposed or adopted elsewhere, will impose significant costs and requirements on our commodities derivatives activities.

We may incur substantial costs or loss of revenue in complying with current or future laws and regulations and our overall businesses and reputation may be adversely affected by the current legal environment. In addition, failure to comply with these laws and regulations may result in substantial civil and criminal fines and penalties.

A failure to address conflicts of interest appropriately could adversely affect our businesses and reputation.

As a global financial services firm that provides products and services to a large and diversified group of clients, including corporations, governments, financial institutions and individuals, we face potential conflicts of interest in the normal course of business. For example, potential conflicts can occur when there is a divergence of interests between us and a client, among clients, between an employee on the one hand and us or a client on the other, or situations in which we may be a creditor of a client.

We have policies, procedures and controls that are designed to identify and address potential conflicts of interest, and we utilize various measures, such as the use of disclosure, to manage these potential conflicts. However, identifying and mitigating potential conflicts of interest can be complex and challenging and can become the focus of media and regulatory scrutiny. Indeed, actions that merely appear to create a conflict can put our reputation at risk even if the likelihood of an actual conflict has been mitigated. It is possible that potential conflicts could give rise to litigation or enforcement actions, which may lead to our clients being less willing to enter into transactions in which a conflict may occur and could adversely affect our businesses and reputation.

Our regulators have the ability to scrutinize our activities for potential conflicts of interest, including through detailed examinations of specific transactions. For example, our status as a BHC supervised by the Federal Reserve subjects us to direct Federal Reserve scrutiny with respect to transactions between our U.S. Bank Subsidiaries and their affiliates. Further, the Volcker Rule subjects us to regulatory scrutiny regarding certain transactions between us and our clients.

Uncertainties and ambiguities as to the interpretation and application of the Tax Cuts and Jobs Act could adversely affect us.

The Tax Act, enacted on December 22, 2017, significantly revised U.S. corporate income tax law by reducing the corporate income tax rate to 21%, partially or wholly eliminating tax deductions for certain expenses and implementing a modified territorial tax system. The modified territorial tax system includes a one-time transition tax on deemed repatriated earnings of non-U.S. subsidiaries and also imposes a minimum tax on GILTI and an alternative BEAT on U.S. corporations with operations outside of the U.S. See also "Management's Discussion and Analysis of Financial Condition and Results of Operations—Supplemental Financial Information and Disclosures—Income Tax Matters."

The U.S. Treasury Department has issued proposed regulations on certain provisions in the Tax Act, some of which are not yet finalized and are therefore subject to change. In addition, there continue to be a number of uncertainties and ambiguities as to the interpretation and application of many of the provisions in the Tax Act, including the provisions relating to the modified territorial tax system, GILTI, and the BEAT. In the absence of further guidance on these issues, we use what we believe are reasonable interpretations and assumptions in applying the Tax Act for purposes of determining our tax balances and results of operations, which may change as we receive additional clarification and implementation guidance and as the interpretation of the Tax Act evolves over time. We expect that the U.S. Treasury Department will continue to issue additional guidance on the application of various provisions in the Tax Act. It is possible that such additional guidance or positions taken by the IRS in an audit could differ from the interpretations and assumptions that we previously made, which could have a material adverse effect on our results of operations and financial condition.

Risk Management

Our risk management strategies, models and processes may not be fully effective in mitigating our risk exposures in all market environments or against all types of risk.

We have devoted significant resources to develop our risk management capabilities and expect to continue to do so in the future. Nonetheless, our risk management strategies, models and processes, including our use of various risk models for assessing market exposures and hedging strategies, stress testing and other analysis, may not be fully effective in mitigating our risk exposure in all market environments or against all types of risk, including risks that are unidentified or unanticipated.

As our businesses change and grow, and the markets in which we operate evolve, our risk management strategies, models and processes may not always adapt with those changes. Some of our methods of managing risk are based upon our use of observed historical market behavior and management's judgment. As a result, these methods may not predict future risk exposures, which could be significantly greater than the historical measures indicate.

In addition, many models we use are based on assumptions or inputs regarding correlations among prices of various asset classes or other market indicators and therefore cannot anticipate sudden, unanticipated or unidentified market or economic movements, which could cause us to incur losses.

Management of market, credit, liquidity, operational, model, legal, regulatory and compliance risks requires, among other things, policies and procedures to record properly and verify a large number of transactions and events, and these policies and procedures may not be fully effective. Our trading risk management strategies and techniques also seek to balance our ability to profit from trading positions with our exposure to potential losses.

While we employ a broad and diversified set of risk monitoring and risk mitigation techniques, those techniques and the judgments that accompany their application cannot anticipate every economic and financial outcome or the timing of such outcomes. For example, to the extent that our trading or investing activities involve less liquid trading markets or are otherwise subject to restrictions on sales or hedging, we may not be able to reduce our positions and therefore reduce our risk associated with such positions. We may, therefore, incur losses in the course of our trading or investing activities. For more information on how we monitor and manage market and certain other risks and related strategies, models and processes, see "Quantitative and Qualitative Disclosures about Risk—Risk Management—Market Risk."

Expected replacement of London Interbank Offered Rate and replacement or reform of other interest rates could adversely affect our business, financial condition and results of operations.

Central banks around the world, including the Federal Reserve, have commissioned working groups of market participants and official sector representatives with the goal of finding suitable replacements for LIBOR and replacements or reforms of other interest rate benchmarks, such as EURIBOR and EONIA (collectively, the "IBORs"). It is expected that a transition away from the widespread use of such rates to alternative rates based on observable market transactions and other potential interest rate benchmark reforms will occur over the course of the next few years. For example, the FCA, which regulates LIBOR, has announced that it has commitments from panel banks to continue to contribute to LIBOR through the end of 2021, but that it will not use its powers to compel contributions beyond such date. Accordingly, there is considerable uncertainty regarding the publication of LIBOR beyond 2021.

On April 3, 2018, the Federal Reserve Bank of New York commenced publication of three reference rates based on overnight U.S. Treasury repurchase agreement transactions, including the Secured Overnight Financing Rate, which has been recommended as an alternative to U.S. dollar LIBOR by the Alternative Reference Rates Committee. Further, the Bank of England is publishing a reformed Sterling Overnight Index Average, comprised of a broader set of overnight Sterling money market transactions, which has been selected by the Working Group on Sterling Risk-Free Reference Rates as the alternative rate to Sterling LIBOR. Central bank-sponsored committees in other jurisdictions, including Europe, Japan and Switzerland, have, or are expected to, select alternative reference rates denominated in other currencies.

The market transition away from IBORs to alternative reference rates is complex and could have a range of adverse impacts on our business, financial condition and results of operations. In particular, any such transition or reform could:

- Adversely impact the pricing, liquidity, value of, return on and trading for a broad array of financial products, including any IBOR-linked securities, loans and derivatives that are included in our financial assets and liabilities;
- Require extensive changes to documentation that governs or references IBOR or IBOR-based products, including, for example, pursuant to time-consuming renegotiations of existing documentation to modify the terms of outstanding securities and related hedging transactions;
- Result in inquiries or other actions from regulators in respect of our preparation and readiness for the replacement of IBOR with one or more alternative reference rates;
- Result in disputes, litigation or other actions with counterparties regarding the interpretation and enforceability of provisions in IBOR-based products such as fallback language or other related provisions, including in the case of fallbacks to the alternative reference rates, any economic, legal, operational or other impact resulting from the fundamental differences between the IBORs and the various alternative reference rates;
- Require the transition and/or development of appropriate systems and analytics to effectively transition our risk management processes from IBOR-based products to those based on one or more alternative reference rates in a timely manner, including by quantifying value and risk for various alternative reference rates, which may prove challenging given the limited history of the proposed alternative reference rates; and
- Cause us to incur additional costs in relation to any of the above factors.

Depending on several factors including those set forth above, our business, financial condition and results of operations could be materially adversely impacted by the market transition or reform of certain benchmarks. Other factors include the pace of the transition to replacement or reformed rates, the specific terms and parameters for and market acceptance of any alternative reference rate, prices of and the liquidity of trading markets for products based on alternative reference rates, and our ability to transition and develop appropriate systems and analytics for one or more alternative reference rates.

Competitive Environment

We face strong competition from other financial services firms, which could lead to pricing pressures that could materially adversely affect our revenue and profitability.

The financial services industry and all aspects of our businesses are intensely competitive, and we expect them to remain so. We compete with commercial banks, brokerage firms, insurance companies, exchanges, electronic trading and clearing platforms, financial data repositories, sponsors of mutual funds, hedge funds, energy companies, financial technology firms and other companies offering financial or ancillary services in the U.S., globally and digitally or through the internet. We compete on the basis of several factors, including transaction execution, capital or access to capital, products and services, innovation, technology, reputation, risk appetite and price.

Over time, certain sectors of the financial services industry have become more concentrated, as institutions involved in a broad range of financial services have left businesses, been acquired by or merged into other firms, or have declared bankruptcy. Such changes could result in our remaining competitors gaining greater capital and other resources, such as the ability to offer a broader range of products and services and geographic diversity, or new competitors may emerge.

We have experienced and may continue to experience pricing pressures as a result of these factors and as some of our competitors seek to obtain market share by reducing prices or providing more favorable terms of business. In addition, certain of our competitors may be subject to different, and, in some cases, less stringent, legal and regulatory regimes, than we are, thereby putting us at a competitive disadvantage. Some new competitors in the financial technology sector have sought to target existing segments of our businesses that could be susceptible to disruption by innovative or less regulated business models. For more information regarding the competitive environment in which we operate, see "Business—Competition" and "Business—Supervision and Regulation."

Automated trading markets may adversely affect our business and may increase competition.

We have experienced intense price competition in some of our businesses in recent years. In particular, the ability to execute securities, derivatives and other financial instrument trades electronically on exchanges, swap execution facilities, and other automated trading platforms has increased the pressure on bid-offer spreads, commissions, markups or comparable fees. The trend toward direct access to automated, electronic markets will likely continue and will likely increase as additional markets move to more automated trading platforms. We have experienced and it is likely that we will continue to experience competitive pressures in these and other areas in the future as some of our competitors may seek to obtain market share by reducing bid-offer spreads, commissions, markups or comparable fees.

Our ability to retain and attract qualified employees is critical to the success of our business and the failure to do so may materially adversely affect our performance.

Our people are our most important resource and competition for qualified employees is intense. If we are unable to continue to attract and retain highly qualified employees, or do so at levels or in forms necessary to maintain our competitive position, or if compensation costs required to attract and retain employees become more expensive, our performance, including our competitive position, could be materially adversely affected.

The financial industry has experienced and may continue to experience more stringent regulation of employee compensation, including limitations relating to incentive-based compensation, clawback requirements and special taxation, which could have an adverse effect on our ability to hire or retain the most qualified employees.

International Risk

We are subject to numerous political, economic, legal, tax, operational, franchise and other risks as a result of our international operations which could adversely impact our businesses in many ways.

We are subject to political, economic, legal, tax, operational, franchise and other risks that are inherent in operating in many countries, including risks of possible nationalization, expropriation, price controls, capital controls, exchange controls, increased taxes and levies, and other restrictive governmental actions, as well as the outbreak of hostilities or political and governmental instability. In many countries, the laws and regulations applicable to the securities and financial services industries are uncertain and evolving, and it may be difficult for us to determine the exact requirements of local laws in every market.

Our inability to remain in compliance with local laws in a particular market could have a significant and negative effect not only on our business in that market but also on our reputation generally. We are also subject to the risk that transactions we structure might not be legally enforceable in all cases.

Various emerging market countries have experienced severe political, economic or financial disruptions, including significant devaluations of their currencies, defaults or potential defaults on sovereign debt, capital and currency exchange controls, high rates of inflation and low or negative growth rates in their economies. Crime and corruption, as well as issues of security and personal safety, also exist in certain of these countries. These conditions could adversely impact our businesses and increase volatility in financial markets generally.

The emergence of a disease pandemic or other widespread health emergency, or concerns over the possibility of such an emergency as well as natural disasters, terrorist activities or military actions, could create economic and financial disruptions in emerging markets and other areas throughout the world, and could lead to operational difficulties (including travel limitations) that could impair our ability to manage our businesses around the world.

As a U.S. company, we are required to comply with the economic sanctions and embargo programs administered by OFAC and similar multi-national bodies and governmental agencies worldwide, as well as applicable anti-corruption laws in the jurisdictions in which we operate, such as the U.S. Foreign Corrupt Practices Act and the U.K. Bribery Act. A violation of a sanction, embargo program, or anti-corruption law could subject us, and individual employees, to a regulatory enforcement action as well as significant civil and criminal penalties.

The U.K.'s anticipated withdrawal from the E.U. could adversely affect us.

It is difficult to predict the future of the U.K.'s relationship with the E.U., the uncertainty of which may increase the volatility in the global financial markets in the short- and medium-term and may negatively disrupt regional and global financial markets. Additionally, depending on the outcome, such uncertainty may adversely affect the manner in which we operate certain of our businesses in Europe.

On June 23, 2016, the U.K. electorate voted to leave the E.U. On March 29, 2017, the U.K. invoked Article 50 of the Lisbon Treaty, which triggered a two-year period, subject to extension (which would need the unanimous approval of the E.U. Member States), during which the U.K. government negotiated a form of withdrawal agreement with the E.U. Absent any changes to this time schedule, the U.K. is expected to leave the E.U. by March 29, 2019. The proposed withdrawal agreement includes a transition period until December 2020 and provides that the U.K. will leave the E.U. single market and will seek a phased period of implementation for a new U.K.-E.U. relationship that may cover the legal and regulatory framework applicable to financial institutions with significant operations in Europe, such as the Firm.

The withdrawal agreement was rejected by the U.K. Parliament on January 15, 2019, and the U.K. Government is in the process of negotiating changes to the withdrawal agreement that would be acceptable to the U.K. Parliament and the E.U. As a result, the terms and conditions of the anticipated withdrawal from the E.U. remain uncertain.

The ongoing political uncertainty in relation to the proposed withdrawal agreement in the U.K. means there is a risk that these arrangements may not be ready for implementation by March 29, 2019 or that there will be no transition period. Potential effects of the U.K. exit from the E.U. and potential mitigation actions may vary considerably depending on the timing of withdrawal, the nature of any transition, implementation or successor arrangements, and the future trading arrangements between the U.K. and the E.U.

If the withdrawal agreement (or any alternative agreement) is not agreed and as a result no transition period applies, our U.K. licensed entities may be unable to rely on E.U. passporting rights to provide services in a number of E.U. jurisdictions beginning March 29, 2019, absent further regulatory relief. Even if a transition period is agreed, our U.K. licensed entities may lose their rights to provide services in a number of E.U. jurisdictions after such transition period unless the new U.K.-E.U. relationship provides for such rights.

In order to prepare for this risk, we are taking steps to make changes to our European operations in an effort to ensure that we can continue to provide cross-border banking and investment and other services in E.U. Member States without the need for separate regulatory authorizations in each member state. See also "Management's Discussion and Analysis of Financial Condition and Results of Operations—Liquidity and Capital Resources—Regulatory Requirements—Regulatory Developments." However, as a result of the political uncertainty described above, it is currently unclear what the final post-Brexit structure of our European operations will be. Given the potential negative disruption to regional and global financial markets, and depending on the extent to which we may be required to make material changes to our European operations beyond those currently planned, our results of operations and business prospects could be negatively affected.

Acquisition, Divestiture and Joint Venture Risk

We may be unable to fully capture the expected value from acquisitions, divestitures, joint ventures, minority stakes or strategic alliances.

In connection with past or future acquisitions, divestitures, joint ventures, minority stakes or strategic alliances (including with MUFG), we face numerous risks and uncertainties combining, transferring, separating or integrating the relevant businesses and systems, including the need to combine or separate accounting and data processing systems and management controls and to integrate relationships with clients, trading counterparties and business partners. In the case of joint ventures and minority stakes, we are subject to additional risks and uncertainties because we may be dependent upon, and subject to liability, losses or reputational damage relating to systems, controls and personnel that are not under our control.

In addition, conflicts or disagreements between us and any of our joint venture partners may negatively impact the benefits to be achieved by the relevant joint venture.

There is no assurance that any of our acquisitions or divestitures will be successfully integrated or disaggregated or yield all of the positive benefits anticipated. If we are not able to integrate or disaggregate successfully our past and future acquisitions or dispositions, there is a risk that our results of operations, financial condition and cash flows may be materially and adversely affected.

Certain of our business initiatives, including expansions of existing businesses, may bring us into contact, directly or indirectly, with individuals and entities that are not within our traditional client and counterparty base and may expose us to new asset classes and new markets. These business activities expose us to new and enhanced risks, greater regulatory scrutiny of these activities, increased credit-related, sovereign and operational risks, and reputational concerns regarding the manner in which these assets are being operated or held.

For more information regarding the regulatory environment in which we operate, see also “Business—Supervision and Regulation.”

Selected Financial Data

Income Statement Data

$ in millions	**2018**	2017	2016	2015	2014
Revenues					
Total non-interest revenues[1]	**$ 36,301**	$ 34,645	$ 30,933	$ 32,062	$ 32,540
Interest income	**13,892**	8,997	7,016	5,835	5,413
Interest expense	**10,086**	5,697	3,318	2,742	3,678
Net interest	**3,806**	3,300	3,698	3,093	1,735
Net revenues	**40,107**	37,945	34,631	35,155	34,275
Non-interest expenses					
Compensation and benefits	**17,632**	17,166	15,878	16,016	17,824
Non-compensation expenses[1]	**11,238**	10,376	9,905	10,644	12,860
Total non-interest expenses	**28,870**	27,542	25,783	26,660	30,684
Income from continuing operations before income taxes	**11,237**	10,403	8,848	8,495	3,591
Provision for (benefit from) income taxes	**2,350**	4,168	2,726	2,200	(90)
Income from continuing operations	**8,887**	6,235	6,122	6,295	3,681
Income (loss) from discontinued operations, net of income taxes	**(4)**	(19)	1	(16)	(14)
Net income	**$ 8,883**	$ 6,216	$ 6,123	$ 6,279	$ 3,667
Net income applicable to noncontrolling interests	**135**	105	144	152	200
Net income applicable to Morgan Stanley	**$ 8,748**	$ 6,111	$ 5,979	$ 6,127	$ 3,467
Preferred stock dividends and other	**526**	523	471	456	315
Earnings applicable to Morgan Stanley common shareholders	**$ 8,222**	$ 5,588	$ 5,508	$ 5,671	$ 3,152
Amounts applicable to Morgan Stanley					
Income from continuing operations	**$ 8,752**	$ 6,130	$ 5,978	$ 6,143	$ 3,481
Income (loss) from discontinued operations	**(4)**	(19)	1	(16)	(14)
Net income applicable to Morgan Stanley	**$ 8,748**	$ 6,111	$ 5,979	$ 6,127	$ 3,467
Effective income tax rate from continuing operations	**20.9%**	40.1%	30.8%	25.9%	(2.5)%

Operating Data

	2018	2017	2016	2015	2014
ROE[2, 3]	**11.8%**	8.0%	8.0%	8.5%	4.8%
ROTCE[2, 3]	**13.5%**	9.2%	9.3%	9.9%	5.7%

Common Share-Related Data

	2018	2017	2016	2015	2014
Per common share					
Earnings (basic)[4]	**$ 4.81**	$ 3.14	$ 2.98	$ 2.97	$ 1.64
Earnings (diluted)[4]	**4.73**	3.07	2.92	2.90	1.60
Book value[5]	**42.20**	38.52	36.99	35.24	33.25
Tangible book value[3, 5]	**36.99**	33.46	31.98	30.26	28.26
Dividends declared	**1.10**	0.90	0.70	0.55	0.35
Common shares outstanding *in millions*					
At December 31	**1,700**	1,788	1,852	1,920	1,951
Annual average:					
Basic	**1,708**	1,780	1,849	1,909	1,924
Diluted	**1,738**	1,821	1,887	1,953	1,971

Balance Sheet Data

$ in millions	**2018**	2017	2016	2015	2014
GLR[6]	**$ 249,735**	$ 192,660	$ 202,297	$ 203,264	$ 193,169
Loans[7]	**115,579**	104,126	94,248	85,759	66,577
Total assets	**853,531**	851,733	814,949	787,465	801,510
Deposits	**187,820**	159,436	155,863	156,034	133,544
Borrowings	**189,662**	192,582	165,716	155,941	155,033
Morgan Stanley shareholders' equity	**80,246**	77,391	76,050	75,182	70,900
Common shareholders' equity	**71,726**	68,871	68,530	67,662	64,880
Tangible common shareholders' equity[3]	**62,879**	59,829	59,234	58,098	55,137

1. Effective January 1, 2018, the Firm adopted new accounting guidance related to *Revenue from Contracts with Customers*, which, among other things, requires a gross presentation of certain costs that were previously netted against net revenues. Prior periods have not been restated pursuant to this guidance. Refer to note 21 to the financial statements for further information on the full impact of adoption of this new accounting guidance.
2. The calculation of ROE and ROTCE equal net income applicable to Morgan Stanley less preferred dividends as a percentage of average common equity and average tangible common equity, respectively.
3. Represents a non-GAAP measure. See "Executive Summary—Selected Non-GAAP Financial Information."
4. For the calculation of basic and diluted earnings (loss) per common share, see Note 16 to the financial statements.
5. Book value per common share and tangible book value per common share equal common shareholders' equity and tangible common shareholders' equity, respectively, divided by common shares outstanding.
6. For a discussion of the GLR, see "Liquidity and Capital Resources—Liquidity Risk Management Framework—Global Liquidity Reserve" herein.
7. Amounts include loans held for investment (net of allowance) and loans held for sale but exclude loans at fair value, which are included in Trading assets in the balance sheets (see Note 7 to the financial statements).

Management's Discussion and Analysis of Financial Condition and Results of Operations

Introduction

Morgan Stanley is a global financial services firm that maintains significant market positions in each of its business segments—Institutional Securities, Wealth Management and Investment Management. Morgan Stanley, through its subsidiaries and affiliates, provides a wide variety of products and services to a large and diversified group of clients and customers, including corporations, governments, financial institutions and individuals. Unless the context otherwise requires, the terms "Morgan Stanley," "Firm," "us," "we" or "our" mean Morgan Stanley (the "Parent Company") together with its consolidated subsidiaries. We define the following as part of our consolidated financial statements ("financial statements"): consolidated income statements ("income statements"), consolidated balance sheets ("balance sheets") and consolidated cash flow statements ("cash flow statements"). See the "Glossary of Common Acronyms" for the definition of certain acronyms used throughout the 2018 Form 10-K.

A description of the clients and principal products and services of each of our business segments is as follows:

Institutional Securities provides investment banking, sales and trading, lending and other services to corporations, governments, financial institutions, and high to ultra-high net worth clients. Investment banking services consist of capital raising and financial advisory services, including services relating to the underwriting of debt, equity and other securities, as well as advice on mergers and acquisitions, restructurings, real estate and project finance. Sales and trading services include sales, financing, prime brokerage and market-making activities in equity and fixed income products, including foreign exchange and commodities. Lending activities include originating corporate loans, commercial mortgage lending, asset-backed lending, and financing extended to sales and trading customers. Other activities include investments and research.

Wealth Management provides a comprehensive array of financial services and solutions to individual investors and small to medium-sized businesses and institutions covering brokerage and investment advisory services; financial and wealth planning services; annuity and insurance products; securities-based lending, residential real estate loans and other lending products; banking and retirement plan services.

Investment Management provides a broad range of investment strategies and products that span geographies, asset classes, and public and private markets to a diverse group of clients across institutional and intermediary channels. Strategies and products include equity, fixed income, liquidity and alternative/other products. Institutional clients include defined benefit/defined contribution plans, foundations, endowments, government entities, sovereign wealth funds, insurance companies, third-party fund sponsors and corporations. Individual clients are served through intermediaries, including affiliated and non-affiliated distributors.

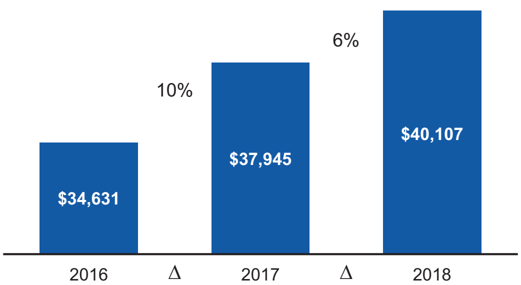
The results of operations in the past have been, and in the future may continue to be, materially affected by competition; risk factors; and legislative, legal and regulatory developments; as well as other factors. These factors also may have an adverse impact on our ability to achieve our strategic objectives. Additionally, the discussion of our results of operations herein may contain forward-looking statements. These statements, which reflect management's beliefs and expectations, are subject to risks and uncertainties that may cause actual results to differ materially. For a discussion of the risks and uncertainties that may affect our future results, see "Forward-Looking Statements," "Business—Competition," "Business—Supervision and Regulation," "Risk Factors" and "Liquidity and Capital Resources—Regulatory Requirements" herein.

Executive Summary

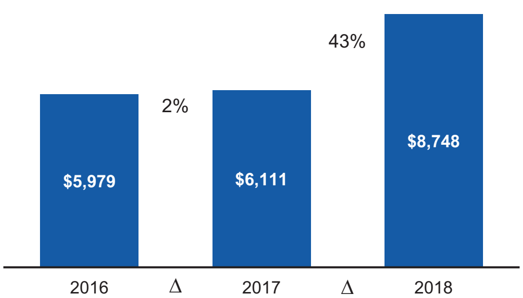
Overview of Financial Results

Consolidated Results

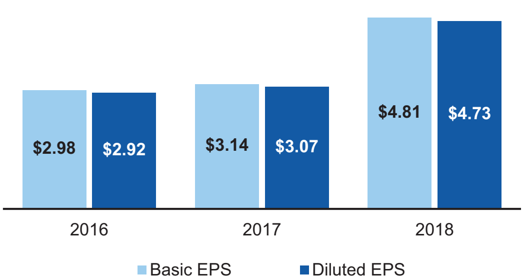
Net Revenues[1]
($ in millions)



Net Income Applicable to Morgan Stanley
($ in millions)



Earnings per Common Share[2]



Net Income Applicable to Morgan Stanley and Diluted EPS on a U.S. GAAP and Adjusted Basis

$ in millions, except per share data	**2018**	2017	2016
Net income applicable to Morgan Stanley			
U.S. GAAP	**$ 8,748**	$ 6,111	$ 5,979
Adjusted—Non-GAAP[3]	**8,545**	7,079	5,911
Earnings per diluted common share			
U.S. GAAP[2]	**$ 4.73**	$ 3.07	$ 2.92
Adjusted—Non-GAAP[3]	**4.61**	3.60	2.88

1. Effective January 1, 2018, the Firm adopted new accounting guidance related to *Revenue from Contracts with Customers*, which among other things, requires a gross presentation of certain costs that were previously netted against net revenues. Prior periods have not been restated pursuant to this guidance. Refer to note 21 to the financial statements for further information on the full impact of adoption of this new accounting guidance.
2. For the calculation of basic and diluted EPS, see Note 16 to the financial statements.
3. Represents a non-GAAP measure, see "Selected non-GAAP Financial Information" herein. Adjusted amounts exclude intermittent net discrete tax provisions (benefits). Beginning in 2017, income tax consequences associated with employee share-based awards are recognized in Provision for income taxes in the income statements but are excluded from the intermittent net discrete tax provisions (benefits) adjustment as we anticipate conversion activity each year. For further information on the net discrete tax provisions (benefits), see "Supplemental Financial Information and Disclosures—Income Tax Matters" herein.

2018 Compared with 2017

- We reported net revenues of $40,107 million in 2018 compared with $37,945 million in 2017. For 2018, net income applicable to Morgan Stanley was $8,748 million, or $4.73 per diluted common share, compared with $6,111 million, or $3.07 per diluted common share, in 2017.

- Results for 2018 include intermittent net discrete tax benefits of $203 million, or $0.12 per diluted common share, primarily associated with the remeasurement of reserves and related interest due to the resolution of multi-jurisdiction tax examinations. In addition, the effective tax rate in 2018 is lower than in 2017, primarily as a result of the enactment of the Tax Cuts and Jobs Act ("Tax Act").

- Results for 2017 included an intermittent net discrete tax provision of $968 million, or $0.53 per diluted common share, primarily related to the impact of the Tax Act, partially offset by net discrete tax benefits related to the remeasurement of reserves and related interest due to new information regarding the status of multi-year IRS tax examinations. For a discussion of the Tax Act and the net discrete tax benefits, see "Supplemental Financial Information and Disclosures—Income Tax Matters" herein.

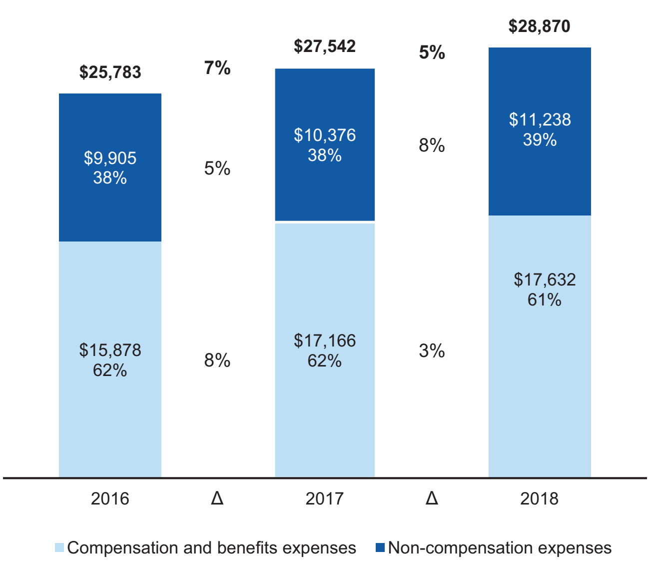
- Excluding the intermittent net discrete tax items, net income applicable to Morgan Stanley was $8,545 million, or $4.61 per diluted common share, compared with $7,079 million, or $3.60 per diluted common share, in 2017 (see "Selected Non-GAAP Financial Information" herein).

2017 compared with 2016

- We reported net revenues of $37,945 million in 2017 compared with $34,631 million in 2016. For 2017, net income applicable to Morgan Stanley was $6,111 million, or $3.07 per diluted common share, compared with $5,979 million, or $2.92 per diluted common share, in 2016.
- Refer to the 2018 compared with 2017 commentary above for the 2017 intermittent net discrete tax impact. Results for 2016 included intermittent net discrete tax benefits of $68 million, or $0.04 per diluted common share, primarily related to the remeasurement of reserves and related interest due to new information regarding the status of multi-year IRS tax examinations, partially offset by adjustments for other tax matters.
- Excluding the intermittent net discrete tax items, net income applicable to Morgan Stanley was $7,079 million, or $3.60 per diluted common share, in 2017 compared with $5,911 million, or $2.88 per diluted common share, in 2016 (see "Selected Non-GAAP Financial Information" herein).

Non-interest Expenses[1, 2]

($ in millions)



1. The percentages on the bars in the chart represent the contribution of compensation and benefits expenses and non-compensation expenses to the total.
2. Effective January 1, 2018, the Firm adopted new accounting guidance related to *Revenue from Contracts with Customers*, which among other things, requires a gross presentation of certain costs that were previously netted against net revenues. Prior periods have not been restated pursuant to this guidance. Refer to note 21 to the financial statements for further information on the full impact of adoption of this new accounting guidance.

2018 Compared with 2017

- Compensation and benefits expenses of $17,632 million in 2018 increased 3% from $17,166 million in 2017. The 2018 results reflected increases in discretionary incentive compensation mainly driven by higher revenues and a reduction in the portion of discretionary incentive compensation subject to deferral ("compensation deferral modification"), as well as salaries across all business segments, the formulaic payout to Wealth Management representatives, and amortization of deferred cash and equity awards. These increases were partially offset by a decrease in the fair value of investments to which certain deferred compensation plans are referenced.

- Non-compensation expenses were $11,238 million in 2018 compared with $10,376 million in 2017, representing an 8% increase. This increase was primarily a result of higher volume-related expenses, the gross presentation of certain expenses due to the adoption of the accounting update *Revenue from Contracts with Customers* (see Notes 2 and 21 to the financial statements for further information) and increased investment in technology, partially offset by lower litigation expenses.

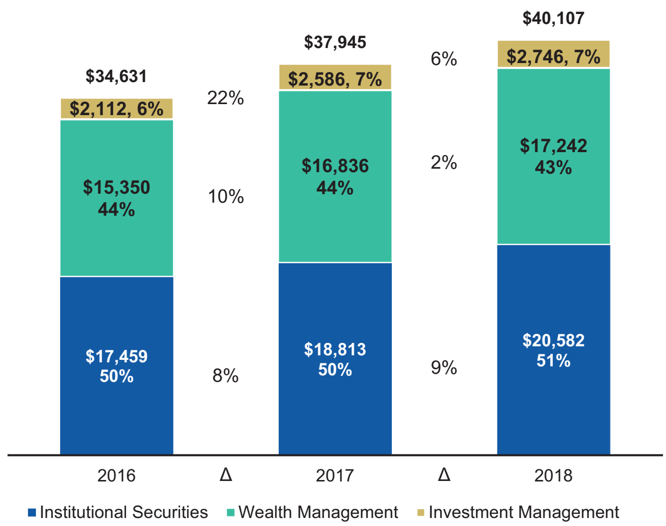
2017 Compared with 2016

- Compensation and benefits expenses of $17,166 million in 2017 increased 8% from $15,878 million in 2016. The 2017 results reflected increases in the formulaic payout to Wealth Management representatives linked to higher revenues, the fair value of investments to which certain deferred compensation plans are referenced, discretionary incentive compensation mainly driven by higher revenues and deferred compensation associated with carried interest in the Investment Management business segment.

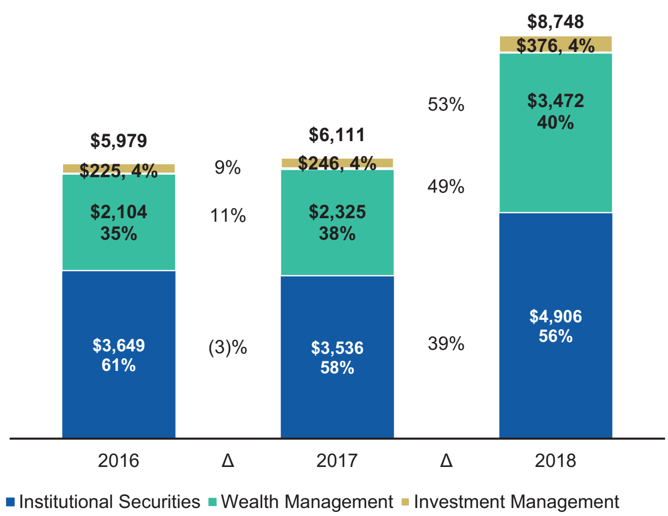
- Non-compensation expenses were $10,376 million in 2017 compared with $9,905 million in 2016, representing a 5% increase. This increase was primarily a result of higher volume-related expenses and litigation costs.

Business Segment Results

Net Revenues by Segment[1, 2, 3]
($ in millions)



Net Income Applicable to Morgan Stanley by Segment[1, 4]
($ in millions)



1. The percentages on the bars in the charts represent the contribution of each business segment to the total. Amounts do not necessarily total to 100% due to intersegment eliminations, where applicable.
2. The total amount of Net Revenues by Segment includes intersegment eliminations of $(463) million in 2018, $(290) million in 2017 and $(290) million in 2016.
3. Effective January 1, 2018, the Firm adopted new accounting guidance related to *Revenues from Contracts with Customers*, which had the effect of increasing the revenues reported in the Institutional Securities and Investment Management business segments. For further information, see "Business Segments—Institutional Securities" and "Business Segments—Investment Management."
4. The total amount of Net Income Applicable to Morgan Stanley by Segment includes intersegment eliminations of $(6) million in 2018, $4 million in 2017 and $1 million in 2016.

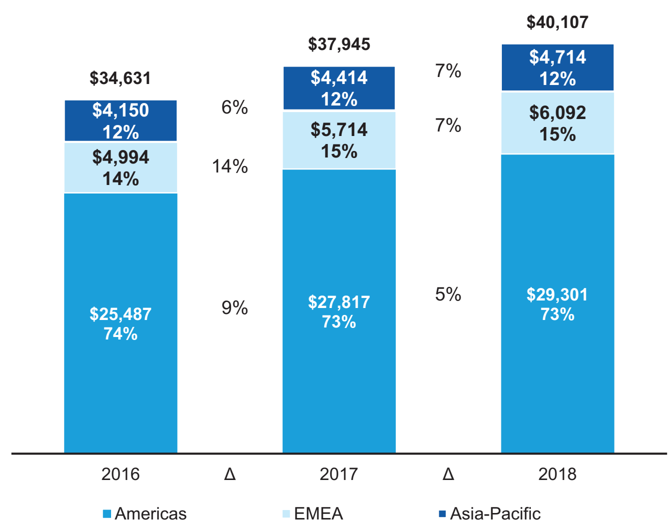
2018 Compared with 2017

- Institutional Securities net revenues of $20,582 million in 2018 increased 9% from 2017, primarily reflecting higher revenues from both sales and trading and Investment banking.
- Wealth Management net revenues of $17,242 million in 2018 increased 2% from 2017, primarily reflecting growth in Asset management revenues, partially offset by reduced Trading revenues.
- Investment Management net revenues of $2,746 million in 2018 increased 6% from 2017, primarily reflecting higher Asset management revenues, partially offset by lower investment gains.

2017 Compared with 2016

- Institutional Securities net revenues of $18,813 million in 2017 increased 8% from 2016, primarily reflecting higher revenues from Investment banking.
- Wealth Management net revenues of $16,836 million in 2017 increased 10% from 2016, primarily reflecting growth in Asset management revenues and Net interest income.
- Investment Management net revenues of $2,586 million in 2017 increased 22% from 2016, primarily reflecting higher revenues from Investments and Asset management.

Net Revenues by Region[1, 2]
($ in millions)



1. For a discussion of how the geographic breakdown for net revenues is determined, see Note 21 to the financial statements.
2. The percentages on the bars in the charts represent the contribution of each region to the total.

Selected Financial Information and Other Statistical Data

$ in millions	**2018**	2017	2016
Expense efficiency ratio[1]	**72.0%**	72.6%	74.5%
ROE[2]	**11.8%**	8.0%	8.0%
Adjusted ROE[2, 3]	**11.5%**	9.4%	7.9%
ROTCE[2]	**13.5%**	9.2%	9.3%
Adjusted ROTCE[2, 3]	**13.2%**	10.8%	9.1%
Worldwide employees	**60,348**	57,633	55,311

	At December 31, 2018	At December 31, 2017
Capital ratios[4]		
Common Equity Tier 1 capital	**16.9%**	16.5%
Tier 1 capital	**19.2%**	18.9%
Total capital	**21.8%**	21.7%
Tier 1 leverage	**8.4%**	8.3%
SLR[5]	**6.5%**	6.5%

1. The expense efficiency ratio represents total non-interest expense as a percentage of net revenues.
2. Represents a non-GAAP measure. See "Selected Non-GAAP Financial Information" herein.
3. Adjusted amounts exclude intermittent net discrete tax provisions (benefits). Beginning in 2017, income tax consequences associated with employee share-based awards are recognized in Provision for income taxes in the income statements but are excluded from the intermittent net discrete tax provisions (benefits) adjustment as we anticipate conversion activity each year. For further information on the net discrete tax provisions (benefits), see "Supplemental Financial Information and Disclosures—Income Tax Matters" herein.
4. Beginning in 2018, our risk-based capital ratios are based on the Standardized Approach fully phased-in rules. At December 31, 2017, our risk-based capital ratios were based on the Standardized Approach transitional rules. For a discussion of our regulatory capital ratios, see "Liquidity and Capital Resources—Regulatory Requirements" herein.
5. The SLR became effective as a capital standard on January 1, 2018; the SLR for 2017 was a non-GAAP pro-forma estimate. For a discussion of the SLR, see "Liquidity and Capital Resources—Regulatory Requirements" herein.

Selected Non-GAAP Financial Information

We prepare our financial statements using U.S. GAAP. From time to time, we may disclose certain "non-GAAP financial measures" in this document or in the course of our earnings releases, earnings and other conference calls, financial presentations, Definitive Proxy Statement and otherwise. A "non-GAAP financial measure" excludes, or includes, amounts from the most directly comparable measure calculated and presented in accordance with U.S. GAAP. We consider the non-GAAP financial measures we disclose to be useful to us, investors and analysts by providing further transparency about, or an alternate means of assessing, our financial condition, operating results, prospective regulatory capital requirements or capital adequacy.

These measures are not in accordance with, or a substitute for, U.S. GAAP and may be different from or inconsistent with non-GAAP financial measures used by other companies. Whenever we refer to a non-GAAP financial measure, we will also generally define it or present the most directly comparable financial measure calculated and presented in accordance with U.S. GAAP, along with a reconciliation of the differences between the U.S. GAAP financial measure and the non-GAAP financial measure.

The principal non-GAAP financial measures presented in this document are set forth below.

Reconciliations from U.S. GAAP to Non-GAAP Consolidated Financial Measures

$ in millions, except per share data	**2018**	2017	2016
Net income applicable to Morgan Stanley	**$ 8,748**	$ 6,111	$ 5,979
Impact of adjustments	**(203)**	968	(68)
Adjusted net income applicable to Morgan Stanley—non-GAAP[1]	**$ 8,545**	$ 7,079	$ 5,911
Earnings per diluted common share	**$ 4.73**	$ 3.07	$ 2.92
Impact of adjustments	**(0.12)**	0.53	(0.04)
Adjusted earnings per diluted common share —non-GAAP[1]	**$ 4.61**	$ 3.60	$ 2.88
Effective income tax rate	**20.9%**	40.1%	30.8%
Impact of adjustments	**1.8%**	(9.3)%	0.8%
Adjusted effective income tax rate—non-GAAP[1]	**22.7%**	30.8%	31.6%

$ in millions	**At December 31, 2018**	At December 31, 2017
Tangible equity		
U.S. GAAP		
Morgan Stanley shareholders' equity	**$ 80,246**	$ 77,391
Less: Goodwill and net intangible assets	**(8,847)**	(9,042)
Tangible Morgan Stanley shareholders' equity—non-GAAP	**$ 71,399**	$ 68,349
U.S. GAAP		
Common equity	**$ 71,726**	$ 68,871
Less: Goodwill and net intangible assets	**(8,847)**	(9,042)
Tangible common equity—non-GAAP	**$ 62,879**	$ 59,829

$ in millions	2018	2017	2016
	Average Monthly Balance Twelve Months Ended December 31,		
Tangible equity			
U.S. GAAP			
Morgan Stanley shareholders' equity	**$ 78,497**	$ 78,230	$ 76,390
Junior subordinated debentures issued to capital trusts	**—**	—	1,753
Less: Goodwill and net intangible assets	**(8,985)**	(9,158)	(9,410)
Tangible Morgan Stanley shareholders' equity—non-GAAP	**$ 69,512**	$ 69,072	$ 68,733
U.S. GAAP			
Common equity	**$ 69,977**	$ 69,787	$ 68,870
Less: Goodwill and net intangible assets	**(8,985)**	(9,158)	(9,410)
Tangible common equity—non-GAAP	**$ 60,992**	$ 60,629	$ 59,460

Consolidated Non-GAAP Financial Measures

$ in billions	2018	2017	2016
Average common equity			
Unadjusted	**$ 70.0**	$ 69.8	$ 68.9
Adjusted[1]	**69.9**	69.9	68.9
ROE[2]			
Unadjusted	**11.8%**	8.0%	8.0%
Adjusted[1, 3]	**11.5%**	9.4%	7.9%
Average tangible common equity			
Unadjusted	**$ 61.0**	$ 60.6	$ 59.5
Adjusted[1]	**60.9**	60.7	59.5
ROTCE[2]			
Unadjusted	**13.5%**	9.2%	9.3%
Adjusted[1, 3]	**13.2%**	10.8%	9.1%

Non-GAAP Financial Measures by Business Segment

$ in billions	2018	2017	2016
Pre-tax margin[4]			
Institutional Securities	**30%**	30%	29%
Wealth Management	**26%**	26%	22%
Investment Management	**17%**	18%	14%
Consolidated	**28%**	27%	26%
Average common equity[5]			
Institutional Securities	**$ 40.8**	$ 40.2	$ 43.2
Wealth Management	**16.8**	17.2	15.3
Investment Management	**2.6**	2.4	2.8
Parent	**9.8**	10.0	7.6
Consolidated average common equity	**$ 70.0**	$ 69.8	$ 68.9
Average tangible common equity[5]			
Institutional Securities	**$ 40.1**	$ 39.6	$ 42.6
Wealth Management	**9.2**	9.3	7.1
Investment Management	**1.7**	1.6	2.0
Parent	**10.0**	10.1	7.8
Consolidated average tangible common equity	**$ 61.0**	$ 60.6	$ 59.5
ROE[2, 6]			
Institutional Securities	**11.0%**	7.8%	7.6%
Wealth Management	**20.0%**	12.9%	13.3%
Investment Management	**14.2%**	10.1%	7.7%
Consolidated	**11.8%**	8.0%	8.0%
ROTCE[2, 6]			
Institutional Securities	**11.2%**	7.9%	7.7%
Wealth Management	**36.6%**	23.8%	28.5%
Investment Management	**22.2%**	14.8%	10.7%
Consolidated	**13.5%**	9.2%	9.3%

1. Adjusted amounts exclude intermittent net discrete tax provisions (benefits). Beginning in 2017, income tax consequences associated with employee share-based awards are recognized in Provision for income taxes in the income statements but are excluded from the intermittent net discrete tax provisions (benefits) adjustment as we anticipate conversion activity each year. For further information on the net discrete tax provisions (benefits), see "Supplemental Financial Information and Disclosures—Income Tax Matters" herein.
2. ROE and ROTCE equal net income applicable to Morgan Stanley less preferred dividends as a percentage of average common equity and average tangible common equity, on a consolidated basis as indicated. When excluding intermittent net discrete tax provisions (benefits), both the numerator and average denominator are adjusted.
3. The calculations used in determining our "ROE and ROTCE Targets" referred to in the following section are the Adjusted ROE and Adjusted ROTCE amounts shown in this table.
4. Pre-tax margin represents income from continuing operations before income taxes as a percentage of net revenues.
5. Average common equity and average tangible common equity for each business segment are determined using our Required Capital framework (see "Liquidity and Capital Resources—Regulatory Requirements—Attribution of Average Common Equity According to the Required Capital Framework" herein).
6. The calculation of the ROE and ROTCE by segment uses the net income applicable to Morgan Stanley by segment less preferred dividends allocated to each segment as a percentage of average common equity and average tangible common equity, respectively, allocated to each segment.

Return on Equity and Tangible Common Equity Targets

We have established an ROE Target of 10% to 13% and an ROTCE Target of 11.5% to 14.5%. Excluding the impact of intermittent net discrete tax items, we generated an 11.5% ROE and a 13.2% ROTCE for 2018.

Our ROE and ROTCE Targets are forward-looking statements that may be materially affected by many factors, including, among other things: macroeconomic and market conditions; legislative and regulatory developments; industry trading and investment banking volumes; equity market levels; interest rate environment; outsized legal expenses or penalties and the ability to maintain a reduced level of expenses; and capital levels. See "Forward-Looking Statements" and "Risk Factors" for additional information.

For non-GAAP measures (ROE and ROTCE), see "Selected Non-GAAP Financial Information" herein. For information on the impact of intermittent net discrete tax items, see "Supplemental Financial Information and Disclosures—Income Tax Matters" herein.

Business Segments

Substantially all of our operating revenues and operating expenses are directly attributable to our business segments. Certain revenues and expenses have been allocated to each business segment, generally in proportion to its respective net revenues, non-interest expenses or other relevant measures.

As a result of treating certain intersegment transactions as transactions with external parties, we include an Intersegment Eliminations category to reconcile the business segment results to our consolidated results. See Note 21 to the financial statements for further information.

Net Revenues

Investment Banking. Investment banking revenues are composed of fees from advisory services and revenues from the underwriting of securities offerings and syndication of loans, net of syndication expenses.

Trading. Trading revenues include revenues from customers' purchases and sales of financial instruments in which we act as a market maker, as well as gains and losses on our related positions and other positions carried at fair value. Trading revenues include the realized gains and losses from sales of cash instruments and derivative settlements, unrealized gains and losses from ongoing fair value changes of our positions related to market-making activities, and gains and losses related to investments associated with certain employee deferred compensation plans and other positions carried at fair value. In many markets, the realized and unrealized gains and losses from the purchase and sale transactions will include any spreads between bids and offers. Certain fees received on loans carried at fair value and dividends from equity securities are also recorded in Trading revenues since they relate to positions carried at fair value.

As a market maker, we stand ready to buy, sell or otherwise transact with customers under a variety of market conditions and to provide firm or indicative prices in response to customer requests. Our liquidity obligations can be explicit in some cases, and in others, customers expect us to be willing to transact with them. In order to most effectively fulfill our market-making function, we engage in activities across all of our trading businesses that include, but are not limited to:

(i) taking positions in anticipation of, and in response to, customer demand to buy or sell and—depending on the liquidity of the relevant market and the size of the position—to hold those positions for a period of time;

(ii) building, maintaining and rebalancing inventory through trades with other market participants;

(iii) managing and assuming basis risk (risk associated with imperfect hedging) between customized customer risks and the standardized products available in the market to hedge those risks;

(iv) trading in the market to remain current on pricing and trends; and

(v) engaging in other activities to provide efficiency and liquidity for markets.

Interest income and expense are also impacted by market-making activities, as debt securities held by us earn interest and securities are loaned, borrowed, sold with agreements to repurchase and purchased with agreements to resell.

We invest in investments or other financial instruments to economically hedge our obligations under certain deferred compensation plans. Changes in the value of such investments are recorded in either Trading revenues or Investments revenues. Expenses associated with the related deferred compensation plans are recorded in Compensation and benefits. See "Compensation Expense" herein for more details.

Investments. Our investments are generally held for long-term appreciation, for hedging purposes, or as part of offering related products or services.

Typically, there are no fee revenues from these investments. The revenues recorded are the result of realized gains and losses from sales and unrealized gains and losses from ongoing fair value changes of our positions, as well as from investments associated with certain employee deferred compensation and co-investment plans. Estimates of the fair value of the investments may involve significant judgment and may fluctuate significantly over time in light of business, market, economic and financial conditions generally or in relation to specific transactions.

Certain investments are subject to sales restrictions or are required to be held in order to carry out related activities.

Commissions and Fees. Commission and fee revenues primarily arise from agency transactions in listed and OTC equity securities, services related to sales and trading activities, and sales of mutual funds, futures, insurance products and options. Commissions received for purchasing and selling listed equity securities and options are recorded in Commissions and fees. Other cash and derivative instruments typically do not have fees associated with them, and fees for any related services are recorded in Commissions and fees.

Asset Management. Asset management revenues include fees associated with the management and supervision of assets, account services and administration, performance-based fees relating to certain funds, separately managed accounts, shareholder servicing and the distribution of certain open-ended mutual funds.

Net Interest. Interest income and Interest expense are functions of the level and mix of total assets and liabilities, including Trading assets and Trading liabilities, Investment securities (which include AFS and HTM securities), Securities borrowed or purchased under agreements to resell, Securities loaned or sold under agreements to repurchase, Loans, Deposits and Borrowings. In addition, Net interest is a function of trading strategies, customer activity in the prime brokerage business, and the prevailing level, term structure and volatility of interest rates.

Other. Other revenues include revenues from equity method investments, realized gains and losses on AFS securities, gains and losses on loan commitments and loans held for sale, provision for loan losses, and other miscellaneous revenues.

Net Revenues by Segment

Institutional Securities

Net revenues are composed of Investment banking revenues, sales and trading net revenues, Investments and Other revenues.

For information about the composition of Investment banking revenues, see "Net Revenues" herein.

Sales and trading net revenues are composed of Trading revenues, Commissions and fees, Asset management revenues and Net interest. In assessing the profitability of our sales and trading activities, we view these net revenues in the aggregate. Decisions relating to trading are based on an overall review of aggregate revenues and costs associated with each transaction or series of transactions. This review includes, among other things, an assessment of the potential gain or loss associated with a transaction, including any associated commissions and fees, dividends, the interest income or expense associated with financing or hedging our positions and other related expenses.

Following is a description of the sales and trading activities within our equities and fixed income businesses, as well as how their results impact the income statement line items.

Equities—Financing. We provide financing and prime brokerage services to our clients active in the equity markets through a variety of products, including margin lending, securities lending and swaps. Results from this business are largely driven by the difference between financing income earned and financing costs incurred, which are reflected in Net interest for securities and equity lending products and in Trading revenues for derivative products.

Equities—Execution services. A significant portion of the results for this business is generated by commissions and fees from executing and clearing client transactions on major stock and derivative exchanges, as well as from OTC transactions. We make markets for our clients in equity-related securities and derivative products, including providing liquidity and hedging products. Market making also generates gains and losses on inventory positions, which are reflected in Trading revenues.

Fixed income—Within fixed income, we make markets in order to facilitate client activity as part of the following products and services:

- *Global macro products.* We make markets for our clients in interest rate, foreign exchange and emerging market products, including exchange-traded and OTC securities and derivative instruments. The results of this market-making activity are primarily driven by gains and losses from buying and selling positions to stand ready for and satisfy client demand and are recorded in Trading revenues.

- *Credit products.* We make markets in credit-sensitive products, such as corporate bonds and mortgage securities and other securitized products, and related derivative instruments. The values of positions in this business are sensitive to changes in credit spreads and interest rates, which result in gains and losses reflected in Trading revenues. We undertake lending activities, which include commercial mortgage lending, asset-backed lending and financing extended to customers. Due to the amount and type of the interest-bearing securities and loans making up this business, a significant portion of the results is also reflected in Net interest revenues.

- *Commodities products and Other.* We make markets in various commodity products related primarily to electricity, natural gas, oil and precious metals, with the results primarily reflected in Trading revenues. Other activities primarily include results from the centralized management of our fixed income derivative counterparty exposures, which are primarily recorded in Trading revenues.

Other sales and trading revenues include impacts from certain central treasury functions, such as liquidity costs and gains (losses) on economic hedges related to certain borrowings, as well as certain activities associated with corporate lending.

For information about revenues from Investments, see "Net Revenues" herein.

Other revenues include revenues from equity method investments, gains and losses on held for sale loans and lending commitments, fees earned in association with lending activities, provision for loan losses and other miscellaneous revenues.

Wealth Management

Net revenues are composed of Transactional, Asset management, Net interest and Other revenues.

Transactional revenues include Investment banking, Trading, and Commissions and fees. Investment banking revenues include revenues from the distribution of equity and fixed income securities, including initial public offerings, secondary offerings, closed-end funds and unit trusts. Trading revenues primarily include revenues from customers' purchases and sales of fixed income financial instruments, in which we act as principal, and gains and losses associated with certain employee deferred compensation plans. Revenues from Commissions and fees primarily arise from agency transactions in listed and OTC equity securities and sales of mutual funds, futures, insurance products and options.

Asset management revenues primarily consist of revenues from individual and institutional investors electing a fee-based pricing arrangement. Wealth Management also receives mutual fund distribution fees, which are based on either the average daily fund net asset balances or average daily aggregate net fund sales and are affected by changes in the overall level and mix of AUM.

Net interest income includes interest on lending activities, interest on AFS and HTM securities, interest related to Deposits and other net interest. Interest income and Interest expense are functions of the level and mix of total assets and liabilities. Net interest is driven by securities-based lending, mortgage lending, margin loans, brokerage sweep deposits, time deposits and other funding sources.

Other revenues include revenues from realized gains and losses on AFS securities, provision for loan losses, referral fees and other miscellaneous revenues.

Investment Management

Net revenues are composed of Investments and Asset management revenues.

Investments revenues are primarily derived from investments made as part of our product offerings. In certain cases these investments are subject to sales restrictions. In addition to the gains and losses discussed previously, Investments revenues for Investment Management also contain performance fees from fund management activities in the form of carried interest, a portion of which is subject to reversal. Additionally, there are certain sponsored Investment Management funds consolidated by us where revenues are primarily related to holders of noncontrolling interests.

Asset management revenues include revenues from investment management services we provide to investment vehicles pursuant to various contractual arrangements. We receive fees primarily based upon mutual fund daily average net assets or based on monthly or quarterly invested equity for other vehicles. Performance-based fees, not in the form of carried interest, are earned on certain products as a percentage of appreciation earned by those products and, in certain cases, are based upon the achievement of performance criteria. These fees are generally recognized annually.

Compensation Expense

Compensation and benefits expense includes accruals for base salaries and fixed allowances, formulaic programs, discretionary incentive compensation, amortization of deferred cash and equity awards, changes in the fair value of investments to which certain deferred compensation plans are referenced, carried interest, severance costs, and other items such as health and welfare benefits.

The factors that drive compensation for our employees vary from quarter to quarter, from segment to segment and within a segment. For certain revenue-producing employees in the Wealth Management and Investment Management business segments, compensation is largely paid on the basis of formulaic payouts that link employee compensation to revenues. Compensation for most other employees, including revenue-producing employees in the Institutional Securities business segment, may also include incentive compensation that is determined following the assessment of the Firm's, business unit's and individual's performance. Compensation for our remaining employees is largely fixed in nature (*i.e.*, base salary and benefits).

Compensation expense for deferred cash-based compensation plans is calculated based on the notional value of the award granted, adjusted for upward and downward changes in fair value of the referenced investment, and is recognized ratably over the prescribed vesting period for the award. However, there may be a timing difference between the immediate revenue recognition of gains and losses on our investments and the deferred recognition of the related compensation expense over the vesting period.

Income Taxes

The income tax provision for our business segments is generally determined based on the revenues, expenses and activities directly attributable to each business segment. Certain items have been allocated to each business segment, generally in proportion to its respective net revenues or other relevant measures.

Institutional Securities

Income Statement Information

$ in millions	2018	2017	2016	% Change 2018	% Change 2017
Revenues					
Investment banking	**$ 6,088**	$ 5,537	$ 4,476	**10%**	24%
Trading	**11,191**	10,295	9,387	**9%**	10%
Investments	**182**	368	147	**(51)%**	150%
Commissions and fees	**2,671**	2,433	2,456	**10%**	(1)%
Asset management	**421**	359	293	**17%**	23%
Other	**535**	630	535	**(15)%**	18%
Total non-interest revenues	**21,088**	19,622	17,294	**7%**	13%
Interest income	**9,271**	5,377	4,005	**72%**	34%
Interest expense	**9,777**	6,186	3,840	**58%**	61%
Net interest	**(506)**	(809)	165	**37%**	N/M
Net revenues	**20,582**	18,813	17,459	**9%**	8%
Compensation and benefits	**6,958**	6,625	6,275	**5%**	6%
Non-compensation expenses	**7,364**	6,544	6,061	**13%**	8%
Total non-interest expenses	**14,322**	13,169	12,336	**9%**	7%
Income from continuing operations before income taxes	**6,260**	5,644	5,123	**11%**	10%
Provision for income taxes	**1,230**	1,993	1,318	**(38)%**	51%
Income from continuing operations	**5,030**	3,651	3,805	**38%**	(4)%
Income (loss) from discontinued operations, net of income taxes	**(6)**	(19)	(1)	**68%**	N/M
Net income	**5,024**	3,632	3,804	**38%**	(5)%
Net income applicable to noncontrolling interests	**118**	96	155	**23%**	(38)%
Net income applicable to Morgan Stanley	**$ 4,906**	$ 3,536	$ 3,649	**39%**	(3)%

Investment Banking

Investment Banking Revenues

$ in millions	2018	2017	2016	% Change 2018	% Change 2017
Advisory	**$ 2,436**	$ 2,077	$ 2,220	**17%**	(6)%
Underwriting:					
Equity	**1,726**	1,484	887	**16%**	67%
Fixed income	**1,926**	1,976	1,369	**(3)%**	44%
Total underwriting	**3,652**	3,460	2,256	**6%**	53%
Total Investment banking	**$ 6,088**	$ 5,537	$ 4,476	**10%**	24%

Investment Banking Volumes

$ in billions	2018	2017	2016
Completed mergers and acquisitions[1]	**$ 1,098**	$ 749	$ 1,023
Equity and equity-related offerings[2, 3]	**64**	65	45
Fixed income offerings[2, 4]	**223**	268	236

Source: Thomson Reuters, data as of January 2, 2019. Transaction volumes may not be indicative of net revenues in a given period. In addition, transaction volumes for prior periods may vary from amounts previously reported due to the subsequent withdrawal or change in the value of a transaction.

1. Includes transactions of $100 million or more. Based on full credit to each of the advisors in a transaction.
2. Based on full credit for single book managers and equal credit for joint book managers.
3. Includes Rule 144A issuances and registered public offerings of common stock and convertible securities and rights offerings.
4. Includes Rule 144A and publicly registered issuances, non-convertible preferred stock, mortgage-backed and asset-backed securities, and taxable municipal debt. Excludes leveraged loans and self-led issuances.

2018 Compared with 2017

Investment banking revenues of $6,088 million in 2018 increased 10% from 2017. The adoption of the accounting update *Revenue from Contracts with Customers* had the effect of increasing the revenues reported in investment banking by approximately $283 million in 2018 compared with 2017 (see Notes 2 and 21 to the financial statements for further information). The drivers of the increase in our Investment banking revenues, other than the effect of the above accounting update, were:

- Advisory revenues increased primarily as a result of higher volumes of completed M&A activity (see Investment Banking Volumes table), partially offset by lower fee realizations.
- Equity underwriting revenues increased as a result of higher fee realizations. Revenues increased in IPOs and convertible offerings, partially offset by lower revenues from secondary block share trades.

- Fixed income underwriting revenues decreased primarily as a result of lower volumes, partially offset by the effect of higher fee realizations. Revenues decreased in bond underwriting fees, partially offset by higher loan fees.

2017 Compared with 2016

Investment banking revenues of $5,537 million in 2017 increased 24% from 2016 due to higher underwriting revenues, partially offset by lower advisory revenues.

- Advisory revenues decreased reflecting the lower volumes of completed M&A (see Investment Banking Volumes table), partially offset by the positive impact of higher fee realizations.
- Equity underwriting revenues increased as a result of higher global market volumes in both follow-on and initial public offerings (see Investment Banking Volumes table) combined with a higher share of fees.
- Fixed income underwriting revenues increased due to higher bond fees and non-investment grade loan fees.

Sales and Trading Net Revenues

By Income Statement Line Item

$ in millions	2018	2017	2016	% Change 2018	% Change 2017
Trading	**$ 11,191**	$ 10,295	$ 9,387	**9%**	10%
Commissions and fees	**2,671**	2,433	2,456	**10%**	(1)%
Asset management	**421**	359	293	**17%**	23%
Net interest	**(506)**	(809)	165	**37%**	N/M
Total	**$ 13,777**	$ 12,278	$ 12,301	**12%**	N/M

By Business

$ in millions	2018	2017	2016	% Change 2018	% Change 2017
Equity	**$ 8,976**	$ 7,982	$ 8,037	**12%**	(1)%
Fixed income	**5,005**	4,928	5,117	**2%**	(4)%
Other	**(204)**	(632)	(853)	**68%**	26%
Total	**$ 13,777**	$ 12,278	$ 12,301	**12%**	N/M

Sales and Trading Revenues—Equity and Fixed Income

$ in millions	2018 Trading	2018 Fees[1]	2018 Net Interest[2]	2018 Total
Financing	**$ 4,841**	**$ 394**	**$ (661)**	**$ 4,574**
Execution services	**2,362**	**2,376**	**(336)**	**4,402**
Total Equity	**$ 7,203**	**$ 2,770**	**$ (997)**	**$ 8,976**
Total Fixed income	**$ 4,793**	**$ 322**	**$ (110)**	**$ 5,005**

$ in millions	2017 Trading	2017 Fees[1]	2017 Net Interest[2]	2017 Total
Financing	$ 4,140	$ 363	$ (762)	$ 3,741
Execution services	2,294	2,191	(244)	4,241
Total Equity	$ 6,434	$ 2,554	$ (1,006)	$ 7,982
Total Fixed income	$ 4,453	$ 238	$ 237	$ 4,928

$ in millions	2016 Trading	2016 Fees[1]	2016 Net Interest[2]	2016 Total
Financing	$ 3,668	$ 347	$ (283)	$ 3,732
Execution services	2,231	2,241	(167)	4,305
Total Equity	$ 5,899	$ 2,588	$ (450)	$ 8,037
Total Fixed income	$ 4,115	$ 162	$ 840	$ 5,117

1. Includes Commissions and fees and Asset management revenues.
2. Includes funding costs, which are allocated to the businesses based on funding usage.

As discussed in "Net Revenues by Segment" herein, we manage each of the sales and trading businesses based on its aggregate net revenues, which are composed of the income statement line items quantified in the previous table. Trading revenues are affected by a variety of market dynamics, including volumes, bid-offer spreads and inventory prices, as well as impacts from hedging activity, which are interrelated. We provide qualitative commentary in the discussion of results that follow on the key drivers of period-over-period variances, as the quantitative impact of the various market dynamics typically cannot be disaggregated.

For additional information on total Trading revenues, see the table "Trading Revenues by Product Type" in Note 21 to the financial statements.

2018 Compared with 2017

Equity

Equity sales and trading net revenues of $8,976 million in 2018 increased 12% from 2017, reflecting higher results in both our financing and execution services businesses.

- Financing increased from 2017, primarily due to higher average client balances and changes in client balance mix, which resulted in increased Trading and Net interest revenues.

- Execution services increased from 2017, primarily reflecting higher Commissions and fees due to higher client activity in cash equities products. Trading revenues increased due to effective inventory management in derivatives products. Net interest revenues declined due to increased funding costs.

Fixed Income

Fixed income net revenues of $5,005 million in 2018 were 2% higher than in 2017, primarily driven by higher results in commodities products and other, partially offset by lower results in credit products.

- Global macro products revenues remained relatively unchanged as revenues from higher client activity in foreign exchange products were offset by unfavorable inventory management results in both rates and foreign exchange products. These results were driven by significant movements in interest rates in the fourth quarter of 2018 with a breakdown of historical correlations, which increased basis risk in the portfolio. Net interest revenues declined due to increased funding costs.

- Credit products Trading revenues decreased in both corporate credit and securitized products, driven by significant credit spread widening in the fourth quarter of 2018, partially offset by growth in lending products.

- Commodities products and Other Trading revenues increased primarily due to increased Commodities client flow and structured transactions, as well as positive results from a reduction in derivative counterparty credit risk.

Other

- Other sales and trading net losses of $204 million in 2018 decreased from 2017, primarily due to improved results from hedge accounting applied to our long-term borrowings, lower net funding costs reflecting changes in the balance sheet and lower losses associated with corporate loan hedging activity, partially offset by a decrease in the fair value of investments to which certain deferred compensation plans are referenced.

2017 Compared with 2016

Equity

Equity sales and trading net revenues of $7,982 million in 2017 decreased 1% from 2016, reflecting lower results in execution services.

- Financing remained relatively unchanged from 2016. The results reflected higher client activity in equity swaps reflected in Trading revenues, offset by a decline in Net interest revenues from higher net interest costs, reflecting the business' increased portion of GLR requirements and a shift in the mix of financing transactions.

- Execution services decreased from 2016, primarily reflecting lower results in derivative products mainly driven by lower corporate activity and volatility, partially offset by higher gains on cash equity products recorded in Trading revenues.

Fixed Income

Fixed income net revenues of $4,928 million in 2017 were 4% lower than in 2016, driven by lower results in global macro products, partially offset by higher results in credit products, and commodities products and other.

- Global macro products decreased primarily due to the lack of a constructive market environment, inventory positioning, and lower client activity reflected in both Trading and Net interest.

- Credit products increased primarily due to the absence of losses driven by a widening spread environment in 2016 and increased securitization activity reflected in Trading revenues, partially offset by reduced Net interest revenues. Net interest revenues decreased as a result of a lower level of interest realized in securitized products and lower net interest spreads, partially offset by increased lending activity.

- Commodities products and Other increased primarily due to higher revenues in other lending and OTC client clearing.

Other

- Other sales and trading net losses of $632 million in 2017 decreased from 2016, primarily reflecting lower losses associated with corporate loan hedging activity and increases in the fair value of investments to which certain deferred compensation plans are referenced, partially offset by higher funding costs.

Investments, Other Revenues, Non-interest Expenses, and Income Tax Items

2018 Compared with 2017

Investments

- Net investment gains of $182 million in 2018 decreased from 2017 as a result of lower gains on business-related investments, losses due to the market deterioration of a publicly traded investment subject to sale restrictions and lower results from real estate limited partnership investments.

Other Revenues

- Other revenues of $535 million in 2018 decreased from 2017, primarily reflecting mark-to-market losses on held-for-sale corporate loans compared with gains in 2017, partially offset by higher loan fee revenues, the recovery in 2018 of an energy industry loan charged off in 2017 and improved results from other equity method investments.

Non-interest Expenses

Non-interest expenses of $14,322 million in 2018 increased from 2017, primarily reflecting a 5% increase in Compensation and benefits expenses and a 13% increase in Non-compensation expenses in 2018.

- Compensation and benefits expenses increased in 2018, primarily due to increases in discretionary incentive compensation driven by higher revenues and the compensation deferral modification, as well as salaries and amortization of deferred cash and equity awards, partially offset by a decrease in the fair value of investments to which certain deferred compensation plans are referenced.

- Non-compensation expenses increased in 2018, primarily due to higher volume-related expenses and the gross presentation of certain expenses due to the adoption of the accounting update *Revenue from Contracts with Customers* (see Notes 2 and 21 to the financial statements for further information), partially offset by lower litigation expenses and the reversal of a portion of previously recorded provisions related to U.K. VAT matters.

2017 Compared with 2016

Investments

- Net investment gains of $368 million in 2017 increased from 2016 as a result of higher gains on business-related and real estate limited partnership investments. In addition, in 2017, we recorded gains on investments to which certain deferred compensation plans are referenced compared with losses in 2016.

Other Revenues

- Other revenues of $630 million in 2017 increased from 2016, primarily reflecting a decrease in the provision on loans held for investment and higher results from other investments, partially offset by lower mark-to-market gains on loans held for sale.

Non-interest Expenses

Non-interest expenses of $13,169 million in 2017 increased from 2016, primarily reflecting a 6% increase in Compensation and benefits expenses and an 8% increase in Non-compensation expenses in 2017.

- Compensation and benefits expenses increased in 2017, primarily due to increases in the fair value of investments to which certain deferred compensation plans are referenced, and discretionary incentive compensation driven mainly by higher revenues.

- Non-compensation expenses increased in 2017, primarily due to higher volume-related expenses and litigation costs related to legacy RMBS matters.

Income Tax Items

The effective tax rate in 2018 is lower compared with 2017, primarily as a result of the enactment of the Tax Act. For a discussion of the Tax Act and other discrete items, see "Supplemental Financial Information and Disclosures—Income Tax Matters" herein and Note 20 to the financial statements. In 2018, we recognized in Provision for income taxes an intermittent net discrete tax benefit of $182 million, primarily associated with the remeasurement of reserves and related interest due to the resolution of multi-jurisdiction tax examinations.

In 2017, we recognized in Provision for income taxes an intermittent net discrete tax provision of $471 million. This net discrete tax provision included an approximate $705 million impact from the Tax Act, partially offset by net discrete tax benefits primarily associated with the remeasurement of reserves and related interest due to new information regarding the status of multi-year IRS tax examinations.

In 2016, we recognized in Provision for income taxes intermittent net discrete tax benefits of $83 million. These net discrete tax benefits were primarily related to the remeasurement of reserves and related interest due to new information regarding the status of multi-year IRS tax examinations, partially offset by adjustments for other tax matters.

Wealth Management

Income Statement Information

$ in millions	2018	2017	2016[1]	% Change 2018	% Change 2017
Revenues					
Investment banking	$ **475**	$ 533	$ 484	**(11)%**	10%
Trading	**279**	848	861	**(67)%**	(2)%
Investments	**1**	3	—	**(67)%**	N/M
Commissions and fees	**1,804**	1,737	1,745	**4%**	—%
Asset management	**10,158**	9,342	8,454	**9%**	11%
Other	**248**	268	277	**(7)%**	(3)%
Total non-interest revenues	**12,965**	12,731	11,821	**2%**	8%
Interest income	**5,498**	4,591	3,888	**20%**	18%
Interest expense	**1,221**	486	359	**151%**	35%
Net interest	**4,277**	4,105	3,529	**4%**	16%
Net revenues	**17,242**	16,836	15,350	**2%**	10%
Compensation and benefits	**9,507**	9,360	8,666	**2%**	8%
Non-compensation expenses	**3,214**	3,177	3,247	**1%**	(2)%
Total non-interest expenses	**12,721**	12,537	11,913	**1%**	5%
Income from continuing operations before income taxes	**4,521**	4,299	3,437	**5%**	25%
Provision for income taxes	**1,049**	1,974	1,333	**(47)%**	48%
Net income applicable to Morgan Stanley	$ **3,472**	$ 2,325	$ 2,104	**49%**	11%

1. Effective July 1, 2016, the Institutional Securities and Wealth Management business segments entered into an agreement, whereby Institutional Securities assumed management of Wealth Management's fixed income client-driven trading activities and employees. Institutional Securities now pays fees to Wealth Management based on distribution activity (collectively, the "Fixed Income Integration"). Results prior to the Fixed Income Integration have not been recast for this new intersegment agreement due to immateriality.

Financial Information and Statistical Data

$ in billions, except employee data	At December 31, 2018	At December 31, 2017
Client assets	$ **2,303**	$ 2,373
Fee-based client assets[1]	$ **1,046**	$ 1,045
Fee-based client assets as a percentage of total client assets	**45%**	44%
Client liabilities[2]	$ **83**	$ 80
Investment securities portfolio	$ **68.6**	$ 59.2
Loans and lending commitments	$ **82.9**	$ 77.3
Wealth Management representatives	**15,694**	15,712

	2018	2017	2016
Per representative:			
Revenues ($ in thousands)[3]	$ **1,100**	$ 1,068	$ 968
Client assets ($ in millions)[4]	$ **147**	$ 151	$ 133
Fee-based asset flows ($ in billions)[5]	$ **65.9**	$ 75.4	$ 48.5

1. Fee-based client assets represent the amount of assets in client accounts where the basis of payment for services is a fee calculated on those assets.
2. Client liabilities include securities-based and tailored lending, residential real estate loans and margin lending.
3. Revenues per representative equal Wealth Management's net revenues divided by the average representative headcount.
4. Client assets per representative equal total period-end client assets divided by period-end representative headcount.
5. Fee-based asset flows include net new fee-based assets, net account transfers, dividends, interest and client fees and exclude institutional cash management-related activity.

Transactional Revenues

$ in millions	2018	2017	2016	% Change 2018	% Change 2017
Investment banking	$ **475**	$ 533	$ 484	**(11)%**	10%
Trading	**279**	848	861	**(67)%**	(2)%
Commissions and fees	**1,804**	1,737	1,745	**4%**	—%
Total	$ **2,558**	$ 3,118	$ 3,090	**(18)%**	1%
Transactional revenues as a % of Net revenues	**15%**	19%	20%		

2018 Compared with 2017

Net Revenues

Transactional Revenues

Transactional revenues of $2,558 million in 2018 decreased 18% from 2017 as a result of lower Trading revenues and Investment banking fees, partially offset by higher Commissions and fees.

- Investment banking revenues decreased in 2018, primarily due to lower revenues from structured product and equity issuances.
- Trading revenues decreased in 2018, primarily due to losses related to investments associated with certain employee deferred compensation plans compared with gains in 2017, and lower fixed income fee revenues driven by product mix.
- Commissions and fees increased in 2018 compared with 2017 primarily as a result of increased client transactions in alternative products, options and futures, partially offset by reduced activity in mutual funds.

Asset Management

Asset management revenues of $10,158 million in 2018 increased 9% compared with 2017, primarily due to the effect of higher fee-based client assets levels in 2018 on the dates on which billings were calculated, generally the beginning of each calendar quarter. Beginning of quarter fee-based client assets increased in 2018 due to market appreciation and net positive flows, but the effect on revenues was partially offset by lower average fee rates across all account types.

See "Fee-Based Client Assets Rollforwards" herein.

Net Interest

Net interest of $4,277 million in 2018 increased 4% compared with 2017, primarily as a result of higher loan interest rates and balances, partially offset by the effect of higher interest rates on Deposits due to changes in our funding mix.

Other

Other revenues of $248 million in 2018 decreased 7% compared with 2017, primarily due to lower realized gains from the AFS securities portfolio.

Non-interest Expenses

Non-interest expenses of $12,721 million in 2018 increased 1% compared with 2017 primarily as a result of higher Compensation and benefits expenses.

- Compensation and benefits expenses increased in 2018 primarily due to the formulaic payout to Wealth Management representatives linked to higher revenues and increases in salaries, partially offset by a decrease in the fair value of investments to which certain deferred compensation plans are referenced.
- Non-compensation expenses were relatively unchanged in 2018, with increased investment in technology offset by a decrease in consulting and litigation expenses.

2017 Compared with 2016

Net Revenues

Transactional Revenues

Transactional revenues of $3,118 million in 2017 were relatively unchanged from 2016, as increased Investment banking revenues were offset by decreased Trading revenues.

- Investment banking revenues increased in 2017, primarily due to higher revenues from structured products and equity syndicate activities, partially offset by lower preferred stock syndicate activity.
- Trading revenues decreased in 2017, primarily due to lower revenues related to the Fixed Income Integration and lower client activity in fixed income products, partially offset by gains on investments to which certain deferred compensation plans are referenced.
- Commissions and fees were relatively unchanged in 2017 compared with 2016.

Asset Management

Asset management revenues of $9,342 million in 2017 increased 11% compared with 2016, primarily due to market appreciation and net positive flows. These increases were partially offset by decreases in average fee rates across all account types.

See "Fee-Based Client Assets Rollforwards" herein.

Net Interest

Net interest of $4,105 million in 2017 increased 16% compared with 2016, primarily due to higher loan balances and higher interest rates, partially offset by higher interest expense on deposits.

Other

Other revenues of $268 million in 2017 decreased 3% compared with 2016, primarily due to lower realized gains from the AFS securities portfolio.

Non-interest Expenses

Non-interest expenses of $12,537 million in 2017 increased 5% compared with 2016 due to higher Compensation and benefits expenses, partially offset by a decrease in Non-compensation expenses.

- Compensation and benefits expenses increased in 2017, primarily due to the formulaic payout to Wealth Management representatives linked to higher revenues, and due to increases in the fair value of investments to which certain deferred compensation plans are referenced.
- Non-compensation expenses decreased in 2017, primarily due to the absence of a $70 million provision recorded in 2016 related to certain brokerage service reporting activities and lower litigation and information processing costs, partially offset by higher consulting fees related to strategic initiatives and higher FDIC insurance expenses.

Income Tax Items

The effective tax rate in 2018 is lower compared with 2017, primarily as a result of the enactment of the Tax Act. For a discussion of the Tax Act, see "Supplemental Financial Information and Disclosures—Income Tax Matters" herein.

In 2017, we recognized in Provision for income taxes an intermittent net discrete tax provision of $411 million, which included approximately $402 million related to the enactment of the Tax Act.

Fee-Based Client Assets

Wealth Management earns fees based on a contractual percentage of fee-based client assets related to certain account types that we offer. These fees, which we record in the Asset management line on our income statement, are earned based on the client assets in the specific account types in which the client participates and are generally not driven by asset class. For most account types, fees are billed in the first month of each quarter based on the related client assets as of the beginning of the quarter. Across the account types, fees will vary based on both the distinct services provided within each account type and on the level of household assets under supervision in Wealth Management.

Fee-Based Client Assets Rollforwards

$ in billions	At December 31, 2017	Inflows	Outflows	Market Impact	**At December 31, 2018**
Separately managed[1]	$ 252	**$ 40**	**$ (18)**	**$ 5**	**$ 279**
Unified managed	250	**46**	**(31)**	**(25)**	**240**
Mutual fund advisory	21	**2**	**(3)**	**(3)**	**17**
Advisor	149	**29**	**(28)**	**(13)**	**137**
Portfolio manager	353	**71**	**(42)**	**(29)**	**353**
Subtotal	$ 1,025	**$ 188**	**$ (122)**	**$ (65)**	**$ 1,026**
Cash management	20	**16**	**(16)**	**—**	**20**
Total fee-based client assets	$ 1,045	**$ 204**	**$ (138)**	**$ (65)**	**$ 1,046**

$ in billions	At December 31, 2016	Inflows	Outflows	Market Impact	At December 31, 2017
Separately managed[1]	$ 222	$ 39	$ (21)	$ 12	$ 252
Unified managed	204	47	(30)	29	250
Mutual fund advisory	21	2	(4)	2	21
Advisor	125	34	(25)	15	149
Portfolio manager	285	74	(41)	35	353
Subtotal	$ 857	$ 196	$ (121)	$ 93	$ 1,025
Cash management	20	13	(13)	—	20
Total fee-based client assets	$ 877	$ 209	$ (134)	$ 93	$ 1,045

$ in billions	At December 31, 2015	Inflows	Outflows	Market Impact	At December 31, 2016
Separately managed[1, 2]	$ 283	$ 33	$ (97)	$ 3	$ 222
Unified managed[2]	105	107	(17)	9	204
Mutual fund advisory	25	2	(6)	—	21
Advisor	115	31	(26)	5	125
Portfolio manager	252	63	(41)	11	285
Subtotal	$ 780	$ 236	$ (187)	$ 28	$ 857
Cash management	15	14	(9)	—	20
Total fee-based client assets	$ 795	$ 250	$ (196)	$ 28	$ 877

Average Fee Rates

Fee rate in bps	**2018**	2017	2016[3]
Separately managed[2]	**16**	17	34
Unified managed[2]	**97**	99	107
Mutual fund advisory	**119**	120	121
Advisor	**84**	86	88
Portfolio manager	**95**	97	101
Subtotal	**76**	77	79
Cash management	**6**	6	6
Total fee-based client assets	**74**	76	77

1. Includes non-custody account values reflecting prior quarter-end balances due to a lag in the reporting of asset values by third-party custodians.
2. A shift in client assets of approximately $66 billion in the fourth quarter of 2016 from separately managed accounts to unified managed accounts resulted in a lower average fee rate for those platforms but did not impact the average fee rate for total fee-based client assets.
3. Certain data enhancements made in the first quarter of 2017 resulted in a modification to the fee rate calculations. 2016 has been restated to reflect the revised calculations.

- *Inflows*—include new accounts, account transfers, deposits, dividends and interest.

- *Outflows*—include closed or terminated accounts, account transfers, withdrawals and client fees.

- *Market impact*—includes realized and unrealized gains and losses on portfolio investments.

- *Separately managed*—accounts by which third-party and affiliated asset managers are engaged to manage clients' assets with investment decisions made by the asset manager. Only one third-party asset manager strategy can be held per account.

- *Unified managed*—accounts that provide the client with the ability to combine separately managed accounts, mutual funds and exchange-traded funds all in one aggregate account. Investment decisions and discretionary authority may be exercised by the client, financial advisor or portfolio manager.

- *Mutual fund advisory*—accounts that give the client the ability to systematically allocate assets across a wide range of mutual funds. Investment decisions are made by the client.

- *Advisor*—accounts where the investment decisions must be approved by the client and the financial advisor must obtain approval each time a change is made to the account or its investments.

- *Portfolio manager*—accounts where a financial advisor has discretion (contractually approved by the client) to make ongoing investment decisions without the client's approval for each individual change.

- *Cash management*—accounts where the financial advisor provides discretionary cash management services to institutional clients, whereby securities or proceeds are invested and reinvested in accordance with the client's investment criteria. Generally, the portfolio will be invested in short-term fixed income and cash equivalent investments.

Investment Management

Income Statement Information

$ in millions	2018	2017	2016	% Change 2018	% Change 2017
Revenues					
Trading	$ 25	$ (22)	$ (2)	N/M	N/M
Investments	254	449	13	(43)%	N/M
Commissions and fees	—	—	3	—%	(100)%
Asset management	2,468	2,196	2,063	12%	6%
Other	(30)	(37)	31	19%	N/M
Total non-interest revenues	2,717	2,586	2,108	5%	23%
Interest income	57	4	5	N/M	(20)%
Interest expense	28	4	1	N/M	N/M
Net interest	29	—	4	N/M	(100)%
Net revenues	2,746	2,586	2,112	6%	22%
Compensation and benefits	1,167	1,181	937	(1)%	26%
Non-compensation expenses	1,115	949	888	17%	7%
Total non-interest expenses	2,282	2,130	1,825	7%	17%
Income from continuing operations before income taxes	464	456	287	2%	59%
Provision for income taxes	73	201	75	(64)%	168%
Income from continuing operations	391	255	212	53%	20%
Income from discontinued operations, net of income taxes	2	—	2	N/M	(100)%
Net income	393	255	214	54%	19%
Net income applicable to noncontrolling interests	17	9	(11)	89%	182%
Net income applicable to Morgan Stanley	$ 376	$ 246	$ 225	53%	9%

2018 Compared with 2017

Net Revenues

Investments

Investments gains of $254 million in 2018 compared with $449 million in 2017 reflect lower carried interest in certain infrastructure and Asia private equity funds and losses on seed investments in certain Alternative/Other products.

Asset Management

Asset management revenues of $2,468 million increased 12% compared with 2017, primarily as a result of higher average long-term AUM. See "AUM Rollforwards" herein.

In addition, the adoption of the accounting update *Revenue from Contracts with Customers* had the effect of increasing Asset management revenues due to the gross presentation of distribution fees (approximately $78 million in 2018). See Notes 2 and 21 to the financial statements for further details.

Other

Other losses of $30 million in 2018 and $37 million in 2017 primarily reflect an impairment of an equity method investment in a third-party asset manager in both years.

Non-interest Expenses

Non-interest expenses of $2,282 million in 2018 increased 7% compared with 2017, primarily due to higher Non-compensation expenses.

- Compensation and benefits expenses decreased in 2018 primarily due to decreases in the fair value of investments to which certain deferred compensation plans are referenced and deferred compensation associated with carried interest, partially offset by increases in salaries and the compensation deferral modification.
- Non-compensation expenses increased in 2018, primarily as a result of the gross presentation of $78 million of distribution fees due to the adoption of the accounting update *Revenue from Contracts with Customers* and higher fee sharing on increased average AUM balances (see "Asset Management" above).

2017 Compared with 2016

Net Revenues

Investments

Investments gains of $449 million in 2017 compared with $13 million in 2016 reflected higher carried interest and performance gains in all asset classes.

Asset Management

Asset management revenues of $2,196 million increased 6% compared with 2016, primarily as a result of higher average AUM across all asset classes. This increase was partially offset by lower effective fee rates in Alternative/Other due to a shift in product mix and the absence of fees recognized in 2016 related to the completion of certain fund raisings.

See "Average AUM" herein.

Other

Other losses of $37 million were recognized in 2017 compared with other revenues of $31 million in 2016, primarily as a result of an impairment of an equity method investment in a third-party asset manager.

Non-interest Expenses

Non-interest expenses of $2,130 million in 2017 increased 17% compared with 2016.

- Compensation and benefits expenses increased in 2017 due to higher incentive compensation, increases in deferred compensation associated with carried interest, and increases in the fair value of investments to which certain deferred compensation plans are referenced.
- Non-compensation expenses increased in 2017, primarily due to higher brokerage, clearing and exchange fees.

Income Tax Items

The effective tax rate in 2018, which is inclusive of an intermittent net discrete tax benefit of $21 million, is lower compared with 2017, primarily as a result of the enactment of the Tax Act. For a discussion of the Tax Act, see "Supplemental Financial Information and Disclosures—Income Tax Matters" herein.

In 2017, we recognized in Provision for income taxes an intermittent net discrete tax provision of $86 million, which included approximately $94 million related to the enactment of the Tax Act.

Assets Under Management or Supervision

AUM Rollforwards

$ in billions	At December 31, 2017	Inflows	Outflows	Market Impact	Other	**At December 31, 2018**
Equity	$ 105	$ **38**	$ **(32)**	$ **(8)**	$ **—**	$ **103**
Fixed income	73	**25**	**(27)**	**(2)**	**(1)**	**68**
Alternative/ Other	128	**22**	**(19)**	**(1)**	**(2)**	**128**
Long-term AUM subtotal	306	**85**	**(78)**	**(11)**	**(3)**	**299**
Liquidity[1]	176	**1,351**	**(1,362)**	**2**	**(3)**	**164**
Total AUM	$ 482	$ **1,436**	$ **(1,440)**	$ **(9)**	$ **(6)**	$ **463**
Shares of minority stake assets	7					**7**

$ in billions	At December 31, 2016	Inflows	Outflows	Market Impact	Other	At December 31, 2017
Equity	$ 79	$ 23	$ (21)	$ 23	$ 1	$ 105
Fixed income	60	27	(21)	4	3	73
Alternative/ Other	115	24	(18)	8	(1)	128
Long-term AUM subtotal	254	74	(60)	35	3	306
Liquidity	163	1,239	(1,227)	1	—	176
Total AUM	$ 417	$ 1,313	$ (1,287)	$ 36	$ 3	$ 482
Shares of minority stake assets	8					7

$ in billions	At December 31, 2015	Inflows	Outflows	Market Impact	Other	At December 31, 2016
Equity	$ 83	$ 19	$ (24)	$ 1	$ —	$ 79
Fixed income	60	25	(26)	2	(1)	60
Alternative/ Other	114	27	(27)	4	(3)	115
Long-term AUM subtotal	257	71	(77)	7	(4)	254
Liquidity	149	1,325	(1,310)	—	(1)	163
Total AUM	$ 406	$ 1,396	$ (1,387)	$ 7	$ (5)	$ 417
Shares of minority stake assets	8					8

1. Included in Liquidity products outflows in 2018 is $18 billion related to the redesign of our brokerage sweep deposits program. See "Liquidity and Capital Resources—Unsecured Financing" herein for more information.

Average AUM

$ in billions	**2018**	2017	2016
Equity	$ **111**	$ 93	$ 81
Fixed income	**71**	66	61
Alternative/Other	**131**	122	115
Long-term AUM subtotal	**313**	281	257
Liquidity	**158**	157	151
Total AUM	$ **471**	$ 438	$ 408
Shares of minority stake assets	**7**	7	8

Average Fee Rate

Fee rate in bps	**2018**	2017	2016
Equity	**76**	73	72
Fixed income	**33**	33	32
Alternative/Other	**66**	70	75
Long-term AUM	**62**	62	64
Liquidity	**17**	17	18
Total AUM	**47**	46	47

- *Inflows*—represent investments or commitments from new and existing clients in new or existing investment products, including reinvestments of client dividends and increases in invested capital. Inflows exclude the impact of exchanges, whereby a client changes positions within the same asset class.
- *Outflows*—represent redemptions from clients' funds, transition of funds from the committed capital period to the invested capital period and decreases in invested capital. Outflows exclude the impact of exchanges, whereby a client changes positions within the same asset class.
- *Market impact*—includes realized and unrealized gains and losses on portfolio investments. This excludes any funds where market impact does not impact management fees.
- *Other*—contains both distributions and foreign currency impact for all periods and the impact of the Mesa West Capital, LLC acquisition in 2018. Distributions represent decreases in invested capital due to returns of capital after

the investment period of a fund. It also includes fund dividends that the client has not reinvested. Foreign currency impact reflects foreign currency changes for non-U.S. dollar denominated funds.

- *Alternative/Other*—includes products in fund of funds, real assets, private equity and credit strategies, as well as multi-asset portfolios.
- *Shares of minority stake assets*—represent the Investment Management business segment's proportional share of assets managed by third-party asset managers in which we hold investments accounted for under the equity method.
- *Average fee rate*—based on Asset management revenues, net of waivers. It excludes performance-based fees and other non-management fees. For certain non-U.S. funds, it includes the portion of advisory fees that the advisor collects on behalf of third-party distributors. The payment of those fees to the distributor is included in Non-compensation expenses in the income statements.

Supplemental Financial Information and Disclosures

Income Tax Matters

Effective Tax Rate from Continuing Operations

$ in millions	**2018**	2017	2016
U.S. GAAP	**20.9%**	40.1%	30.8%
Adjusted effective income tax rate—non-GAAP[1]	**22.7%**	30.8%	31.6%
Net discrete tax provisions/(benefits)			
Recurring[2]	**$ (165)**	$ (155)	$ —
Intermittent[3]	**$ (203)**	$ 968	$ (68)

1. Adjusted effective income tax rate is a non-GAAP measure that excludes intermittent net discrete tax provisions (benefits). For further information on non-GAAP measures, see "Selected Non-GAAP Financial Information" herein.
2. Beginning in 2017, with the adoption of the accounting update *Improvements to Employee Share-Based Payment Accounting*, the income tax consequences associated with employee share-based awards are recognized in Provision for income taxes in the income statements. We consider these employee share-based award related provisions (benefits) to be recurring-type ("Recurring") discrete tax items, as we anticipate some level of conversion activity each year. Accordingly, these Recurring discrete tax provisions (benefits) are excluded from the intermittent net discrete tax provisions (benefits) adjustment.
3. Includes all tax provisions (benefits) that have been determined to be discrete, other than Recurring items as defined above.

2018

The effective tax rate from continuing operations for 2018 includes intermittent net discrete tax benefits of $203 million, primarily associated with the remeasurement of reserves and related interest due to the resolution of multi-jurisdiction tax examinations.

The effective tax rate reflects our current assumptions, estimates and interpretations related to the Tax Act and other factors. The Tax Act, enacted on December 22, 2017, significantly revised U.S. corporate income tax law by reducing the corporate income tax rate to 21%, partially or wholly eliminating tax deductions for certain expenses and implementing a modified territorial tax system. The modified territorial tax system includes a one-time transition tax on deemed repatriated earnings of non-U.S. subsidiaries and also imposes a minimum tax on GILTI and an alternative BEAT on U.S. corporations with operations outside of the U.S. The U.S. Treasury Department has issued proposed regulations and guidance on certain provisions in the Tax Act during 2018, although some of these regulations have not yet been finalized, and are, therefore, still subject to change. Our income tax estimates may change as additional clarification and implementation guidance continue to be received from the U.S. Treasury Department and as the interpretation of the Tax Act evolves over time.

2017

The effective tax rate from continuing operations for 2017 included an intermittent net discrete tax provision of $968 million, primarily related to the impact of the Tax Act, partially offset by net discrete tax benefits primarily associated with the remeasurement of reserves and related interest due to new information regarding the status of multi-year IRS tax examinations.

We recorded an approximate $1.2 billion net discrete tax provision as a result of the enactment of the Tax Act, primarily from the remeasurement of certain deferred tax assets using the lower enacted corporate tax rate. This provision incorporated the best available information as of the enactment date, as well as assumptions made based upon our interpretation of the Tax Act.

2016

The effective tax rate from continuing operations for 2016 included intermittent net discrete tax benefits of $68 million, primarily related to the remeasurement of reserves and related interest due to new information regarding the status of multi-year IRS tax examinations, partially offset by adjustments for other tax matters.

U.S. Bank Subsidiaries

Our U.S. bank subsidiaries, Morgan Stanley Bank N.A. ("MSBNA") and Morgan Stanley Private Bank, National Association ("MSPBNA") (collectively, "U.S. Bank Subsidiaries") accept deposit accounts, provide loans to a variety of customers, from large corporate and institutional clients to high net worth individuals, and invest in securities. The lending activities in the Institutional Securities business segment primarily include loans and lending commitments to corporate clients. The lending activities in the Wealth

Management business segment primarily include securities-based lending, which allows clients to borrow money against the value of qualifying securities, and residential real estate loans.

We expect our lending activities to continue to grow through further market penetration of our client base. For a further discussion of our credit risks, see "Quantitative and Qualitative Disclosures about Risk—Credit Risk." For a further discussion about loans and lending commitments, see Notes 7 and 12 to the financial statements.

U.S. Bank Subsidiaries' Supplemental Financial Information[1]

$ in billions	At December 31, 2018	At December 31, 2017
Assets	$ **216.9**	$ 185.3
Investment securities portfolio:		
Investment securities—AFS	**45.5**	42.0
Investment securities—HTM	**23.7**	17.5
Total investment securities	$ **69.2**	$ 59.5
Deposits[2]	$ **187.1**	$ 159.1
Wealth Management		
Securities-based lending and other loans[3]	$ **44.7**	$ 41.2
Residential real estate loans	**27.5**	26.7
Total	$ **72.2**	$ 67.9
Institutional Securities		
Corporate loans	$ **30.9**	$ 24.2
Wholesale real estate loans	**10.5**	12.2
Total	$ **41.4**	$ 36.4

1. Amounts exclude transactions between the bank subsidiaries, as well as deposits from the Parent Company and affiliates.
2. For further information on deposits, see "Liquidity and Capital Resources—Funding Management—Unsecured Financing" herein.
3. Other loans primarily include tailored lending.

Accounting Development Updates

The Financial Accounting Standards Board has issued certain accounting updates that apply to us. Accounting updates not listed below were assessed and determined to be either not applicable or are not expected to have a significant impact on our financial statements.

The following accounting updates were adopted on January 1, 2019:

- *Derivatives and Hedging (ASU 2018-16)*. The amendments in this update permit use of the OIS rate based on the Secured Overnight Financing Rate as a U.S. benchmark interest rate for hedge accounting purposes. We adopted this update on a prospective basis for qualifying new or redesignated hedging relationships; this update does not impact our existing hedges.
- *Leases.* This accounting update requires lessees to recognize all leases with terms exceeding one year in the balance sheet, which results in the recognition of a right of use asset and corresponding lease liability, including for those leases that we currently classify as operating leases. The accounting for leases where we are the lessor is largely unchanged.

  The right of use asset and lease liability were initially measured using the present value of the remaining rental payments. We adopted this accounting update through a cumulative-effect adjustment to retained earnings.

  At transition on January 1, 2019, the adoption of this standard resulted in a balance sheet gross-up of approximately $4 billion reflected in Other assets and Other liabilities and accrued expenses. In addition, previously deferred gains from sale-leaseback transactions of approximately $60 million were recognized directly into retained earnings. Prior period amounts were not restated.

The following accounting update is currently being evaluated to determine the potential impact of adoption:

- *Financial Instruments–Credit Losses.* This accounting update impacts the impairment model for certain financial assets measured at amortized cost by requiring a CECL methodology to estimate expected credit losses over the entire life of the financial asset, recorded at inception or purchase. CECL will replace the loss model currently applicable to loans held for investment, HTM securities and other receivables carried at amortized cost, such as employee loans.

  The update also eliminates the concept of other-than-temporary impairment for AFS securities. Impairments on AFS securities will be required to be recognized in earnings through an allowance when the fair value is less than amortized cost and a credit loss exists or the securities are expected to be sold before recovery of amortized cost.

  Under the update, there may be an ability to determine there are no expected credit losses in certain circumstances, *e.g.*, based on collateral arrangements for lending and financing transactions or based on the credit quality of the borrower or issuer.

  Based on preliminary estimates, we expect the impact from the adoption of this standard will primarily result from the employee loans, wholesale real estate, corporate and residential real estate portfolios. The models we expect to use for these portfolios are in the process of being tested. This update is effective as of January 1, 2020.

Critical Accounting Policies

Our financial statements are prepared in accordance with U.S. GAAP, which requires us to make estimates and assumptions (see Note 1 to the financial statements). We believe that of our significant accounting policies (see Note 2 to the financial statements), the following policies involve a higher degree of judgment and complexity.

Fair Value

Financial Instruments Measured at Fair Value

A significant number of our financial instruments are carried at fair value. We make estimates regarding the valuation of assets and liabilities measured at fair value in preparing the financial statements. These assets and liabilities include, but are not limited to:

- Trading assets and Trading liabilities;
- Investment Securities—AFS securities;
- Certain Securities purchased under agreements to resell;
- Certain Deposits, primarily structured certificates of deposits;
- Certain Securities sold under agreements to repurchase;
- Certain Other secured financings; and
- Certain Borrowings, primarily structured notes.

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability (*i.e.*, the exit price) in an orderly transaction between market participants at the measurement date.

In determining fair value, we use various valuation approaches. A hierarchy for inputs is used in measuring fair value that maximizes the use of observable prices and inputs and minimizes the use of unobservable prices and inputs by requiring that the relevant observable inputs be used when available. The hierarchy is broken down into three levels, wherein Level 1 represents quoted prices in active markets, Level 2 represents valuations based on quoted prices in markets that are not active or for which all significant inputs are observable, and Level 3 consists of valuation techniques that incorporate significant unobservable inputs and, therefore, require the greatest use of judgment.

In periods of market disruption, the observability of prices and inputs may be reduced for many instruments, which could cause an instrument to be recategorized from Level 1 to Level 2 or from Level 2 to Level 3. In addition, a downturn in market conditions could lead to declines in the valuation of many instruments. For further information on the definition of fair value, Level 1, Level 2, Level 3 and related valuation techniques, and quantitative information about and sensitivity of significant unobservable inputs used in Level 3 fair value measurements, see Notes 2 and 3 to the financial statements.

Where appropriate, valuation adjustments are made to account for various factors such as liquidity risk (bid-ask adjustments), credit quality, model uncertainty and concentration risk in order to arrive at fair value. For a further discussion of valuation adjustments that we apply, see Note 2 to the financial statements.

Assets and Liabilities Measured at Fair Value on a Non-recurring Basis

Certain of our assets and liabilities are measured at fair value on a non-recurring basis, primarily relating to loans, other investments, premises, equipment and software costs, intangible assets, other assets, and other liabilities and accrued expenses. We incur losses or gains for any adjustments of these assets to fair value. A downturn in market conditions could result in impairment charges in future periods.

For assets and liabilities measured at fair value on a non-recurring basis, fair value is determined by using various valuation approaches. The same hierarchy as described above, which maximizes the use of observable inputs and minimizes the use of unobservable inputs by generally requiring that the observable inputs be used when available, is used in measuring fair value for these items.

See Note 3 to the financial statements for further information on assets and liabilities that are measured at fair value on a non-recurring basis.

Goodwill and Intangible Assets

Goodwill

Evaluating goodwill for impairment requires management to make significant judgments. Goodwill impairment tests are performed at the reporting unit level, which is generally at the level of or one level below our business segments. Goodwill no longer retains its association with a particular acquisition once it has been assigned to a reporting unit. As such, all the activities of a reporting unit, whether acquired or organically developed, are available to support the value of the goodwill.

We test goodwill for impairment on an annual basis as of July 1 and on an interim basis when certain events or circumstances exist.

For both the annual and interim tests, we have the option to either (i) perform a quantitative impairment test or (ii) first perform a qualitative assessment to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount, in which case the quantitative test would be performed.

When performing a quantitative impairment test, we compare the fair value of a reporting unit with its carrying amount, including goodwill. If the fair value of the reporting unit is less than its carrying amount, the goodwill impairment loss is equal to the excess of the carrying value over the fair value, limited by the carrying amount of goodwill allocated to that reporting unit.

The estimated fair value of the reporting units is derived based on valuation techniques we believe market participants would use for each of the reporting units. The estimated fair value is generally determined by utilizing a discounted cash flow methodology or methodologies that incorporate price-to-book and price-to-earnings multiples of certain comparable companies. At each annual goodwill impairment testing date, each of our reporting units with goodwill had a fair value that was substantially in excess of its carrying value.

Intangible Assets

Amortizable intangible assets are amortized over their estimated useful lives and are reviewed for impairment on an interim basis when certain events or circumstances exist. An impairment exists when the carrying amount of the intangible asset exceeds its fair value. An impairment loss will be recognized if the carrying amount of the intangible asset is not recoverable and exceeds its fair value. The carrying amount of the intangible asset is not recoverable if it exceeds the sum of the expected undiscounted cash flows.

For both goodwill and intangible assets, to the extent an impairment loss is recognized, the loss establishes the new cost basis of the asset. Subsequent reversal of impairment losses is not permitted. For amortizable intangible assets, the new cost basis is amortized over the remaining useful life of that asset. Adverse market or economic events could result in impairment charges in future periods.

See Notes 2, 3 and 9 to the financial statements for additional information about goodwill and intangible assets.

Legal and Regulatory Contingencies

In the normal course of business, we have been named, from time to time, as a defendant in various legal actions, including arbitrations, class actions and other litigation, arising in connection with our activities as a global diversified financial services institution.

Certain of the actual or threatened legal actions include claims for substantial compensatory and/or punitive damages or claims for indeterminate amounts of damages. In some cases, the entities that would otherwise be the primary defendants in such cases are bankrupt or in financial distress.

We are also involved, from time to time, in other reviews, investigations and proceedings (both formal and informal) by governmental and self-regulatory agencies regarding our business and involving, among other matters, sales and trading activities, wealth and investment management services, financial products or offerings sponsored, underwritten or sold by us, and accounting and operational matters, certain of which may result in adverse judgments, settlements, fines, penalties, injunctions or other relief.

Accruals for litigation and regulatory proceedings are generally determined on a case-by-case basis. Where available information indicates that it is probable a liability had been incurred at the date of the financial statements and we can reasonably estimate the amount of that loss, we accrue the estimated loss by a charge to income. In many proceedings, however, it is inherently difficult to determine whether any loss is probable or even possible or to estimate the amount of any loss.

For certain legal proceedings and investigations, we can estimate possible losses, additional losses, ranges of loss or ranges of additional loss in excess of amounts accrued. For certain other legal proceedings and investigations, we cannot reasonably estimate such losses, particularly for proceedings and investigations where the factual record is being developed or contested or where plaintiffs or government entities seek substantial or indeterminate damages, restitution, disgorgement or penalties.

Numerous issues may need to be resolved before a loss or additional loss or range of loss or additional range of loss can be reasonably estimated for a proceeding or investigation, including through potentially lengthy discovery and determination of important factual matters, determination of issues related to class certification and the calculation of damages or other relief, and addressing novel or unsettled legal questions relevant to the proceedings or investigations in question.

Significant judgment is required in deciding when and if to make these accruals, and the actual cost of a legal claim or regulatory fine/penalty may ultimately be materially different from the recorded accruals.

See Note 12 to the financial statements for additional information on legal proceedings.

Income Taxes

We are subject to the income and indirect tax laws of the U.S., its states and municipalities and those of the foreign jurisdictions in which we have significant business operations. These tax laws are complex and subject to different interpretations by the taxpayer and the relevant governmental taxing authorities. We must make judgments and interpretations about the application of these inherently complex tax laws when determining the provision for income taxes and the expense for indirect taxes and must also make estimates about when certain items affect taxable income in the various tax jurisdictions.

Disputes over interpretations of the tax laws may be settled with the taxing authority upon examination or audit. We periodically evaluate the likelihood of assessments in each taxing jurisdiction resulting from current and subsequent years' examinations, and unrecognized tax benefits related to potential losses that may arise from tax audits are established in accordance with the relevant accounting guidance. Once established, unrecognized tax benefits are adjusted when there is more information available or when an event occurs requiring a change.

Our provision for income taxes is composed of current and deferred taxes. Current income taxes approximate taxes to be paid or refunded for the current period. Deferred income taxes reflect the net tax effects of temporary differences between the financial reporting and tax bases of assets and liabilities and are measured using the applicable enacted tax rates and laws that will be in effect when such differences are expected to reverse.

Our deferred tax balances may also include deferred assets related to tax attribute carryforwards, such as net operating losses and tax credits that will be realized through reduction of future tax liabilities and, in some cases, are subject to expiration if not utilized within certain periods. We perform regular reviews to ascertain whether deferred tax assets are realizable. These reviews include management's estimates and assumptions regarding future taxable income and incorporate various tax planning strategies, including strategies that may be available to tax attribute carryforwards before they expire.

Once the deferred tax asset balances have been determined, we may record a valuation allowance against the deferred tax asset balances to reflect the amount we estimate is more likely than not to be realized at a future date. Both current and deferred income taxes may reflect adjustments related to our unrecognized tax benefits.

Significant judgment is required in estimating the consolidated provision for (benefit from) income taxes, current and deferred tax balances (including valuation allowance, if any), accrued interest or penalties and uncertain tax positions. Revisions in estimates and/or the actual costs of a tax assessment may ultimately be materially different from the recorded accruals and unrecognized tax benefits, if any.

See Note 2 to the financial statements for additional information on our significant assumptions, judgments and interpretations associated with the accounting for income taxes and Note 20 to the financial statements for additional information on our tax examinations.

Liquidity and Capital Resources

Senior management, with oversight by the Asset/Liability Management Committee and the Board of Directors ("Board"), establishes and maintains our liquidity and capital policies. Through various risk and control committees, senior management reviews business performance relative to these policies, monitors the availability of alternative sources of financing, and oversees the liquidity, interest rate and currency sensitivity of our asset and liability position. The Treasury department, Firm Risk Committee, Asset/Liability Management Committee, and other committees and control groups assist in evaluating, monitoring and controlling the impact that our business activities have on our balance sheet, liquidity and capital structure. Liquidity and capital matters are reported regularly to the Board and the Risk Committee of the Board.

Balance Sheet

We monitor and evaluate the composition and size of our balance sheet on a regular basis. Our balance sheet management process includes quarterly planning, business-specific thresholds, monitoring of business-specific usage versus key performance metrics and new business impact assessments.

We establish balance sheet thresholds at the consolidated and business segment levels. We monitor balance sheet utilization and review variances resulting from business activity and market fluctuations. On a regular basis, we review current performance versus established thresholds and assess the need to re-allocate our balance sheet based on business unit needs. We also monitor key metrics, including asset and liability size and capital usage.

Total Assets by Business Segment

$ in millions	At December 31, 2018 IS	WM	IM	Total
Assets				
Cash and cash equivalents[1]	**$ 69,526**	**$ 17,621**	**$ 49**	**$ 87,196**
Trading assets at fair value	**263,870**	**60**	**2,369**	**266,299**
Investment securities	**23,273**	**68,559**	**—**	**91,832**
Securities purchased under agreements to resell	**80,660**	**17,862**	**—**	**98,522**
Securities borrowed	**116,207**	**106**	**—**	**116,313**
Customer and other receivables	**35,777**	**16,865**	**656**	**53,298**
Loans, net of allowance[2]	**43,380**	**72,194**	**5**	**115,579**
Other assets[3]	**13,734**	**9,125**	**1,633**	**24,492**
Total assets	**$ 646,427**	**$ 202,392**	**$ 4,712**	**$ 853,531**

$ in millions	At December 31, 2017 IS	WM	IM	Total
Assets				
Cash and cash equivalents[1]	$ 63,597	$ 16,733	$ 65	$ 80,395
Trading assets at fair value	295,678	59	2,545	298,282
Investment securities	19,556	59,246	—	78,802
Securities purchased under agreements to resell	74,732	9,526	—	84,258
Securities borrowed	123,776	234	—	124,010
Customer and other receivables	36,803	18,763	621	56,187
Loans, net of allowance[2]	36,269	67,852	5	104,126
Other assets[3]	14,563	9,596	1,514	25,673
Total assets	$ 664,974	$ 182,009	$ 4,750	$ 851,733

IS—Institutional Securities
WM—Wealth Management
IM—Investment Management

1. Cash and cash equivalents includes Cash and due from banks, Interest bearing deposits with banks and Restricted cash.
2. Amounts include loans held for investment (net of allowance) and loans held for sale but exclude loans at fair value, which are included in Trading assets in the balance sheets (see Note 7 to the financial statements).
3. Other assets primarily includes Goodwill, Intangible assets, premises, equipment, software, other investments and deferred tax assets.

A substantial portion of total assets consists of liquid marketable securities and short-term receivables arising principally from sales and trading activities in the Institutional Securities business segment. Total assets of $853.5 billion at December 31, 2018 were relatively unchanged compared with $851.7 billion at December 31, 2017. In 2018, Loans increased in the Institutional Securities and Wealth Management business segments; deposit growth in the Wealth Management business segment led to increases in Investment securities and Securities purchased under agreements to resell; Trading assets within the Institutional Securities business segment declined due to reductions in Equities inventory, which resulted in greater liquidity, as reflected by increases in Cash and cash equivalents and Securities purchased under agreements to resell; and Securities borrowed within the Institutional Securities business segment decreased due to lower client balances and Trading liabilities.

Liquidity Risk Management Framework

The primary goal of our Liquidity Risk Management Framework is to ensure that we have access to adequate funding across a wide range of market conditions and time horizons. The framework is designed to enable us to fulfill our financial obligations and support the execution of our business strategies.

The following principles guide our Liquidity Risk Management Framework:

- Sufficient liquid assets should be maintained to cover maturing liabilities and other planned and contingent outflows;
- Maturity profile of assets and liabilities should be aligned, with limited reliance on short-term funding;
- Source, counterparty, currency, region and term of funding should be diversified; and
- Liquidity Stress Tests should anticipate, and account for, periods of limited access to funding.

The core components of our Liquidity Risk Management Framework are the Required Liquidity Framework, Liquidity Stress Tests and the GLR, which support our target liquidity profile.

Required Liquidity Framework

Our Required Liquidity Framework establishes the amount of liquidity we must hold in both normal and stressed environments to ensure that our financial condition and overall soundness are not adversely affected by an inability (or perceived inability) to meet our financial obligations in a timely manner. The Required Liquidity Framework considers the most constraining liquidity requirement to satisfy all regulatory and internal limits at a consolidated and legal entity level.

Liquidity Stress Tests

We use Liquidity Stress Tests to model external and intercompany liquidity flows across multiple scenarios and a range of time horizons. These scenarios contain various combinations of idiosyncratic and systemic stress events of different severity and duration. The methodology, implementation, production and analysis of our Liquidity Stress Tests are important components of the Required Liquidity Framework.

The assumptions used by us in our various Liquidity Stress Test scenarios include, but are not limited to, the following:

- No government support;
- No access to equity and unsecured debt markets;
- Repayment of all unsecured debt maturing within the stress horizon;

- Higher haircuts for and significantly lower availability of secured funding;
- Additional collateral that would be required by trading counterparties, certain exchanges and clearing organizations related to credit rating downgrades;
- Additional collateral that would be required due to collateral substitutions, collateral disputes and uncalled collateral;
- Discretionary unsecured debt buybacks;
- Drawdowns on lending commitments provided to third parties; and
- Client cash withdrawals and reduction in customer short positions that fund long positions.

Liquidity Stress Tests are produced and results are reported at different levels, including major operating subsidiaries and major currencies, to capture specific cash requirements and cash availability across the Firm, including a limited number of asset sales in a stressed environment. The Liquidity Stress Tests assume that subsidiaries will use their own liquidity first to fund their obligations before drawing liquidity from the Parent Company and that the Parent Company will support its subsidiaries and will not have access to subsidiaries' liquidity reserves. In addition to the assumptions underpinning the Liquidity Stress Tests, we take into consideration settlement risk related to intraday settlement and clearing of securities and financing activities.

At December 31, 2018 and December 31, 2017, we maintained sufficient liquidity to meet current and contingent funding obligations as modeled in our Liquidity Stress Tests.

Global Liquidity Reserve

We maintain sufficient liquidity reserves to cover daily funding needs and to meet strategic liquidity targets sized by the Required Liquidity Framework and Liquidity Stress Tests. The size of the GLR is actively managed by us considering the following components: unsecured debt maturity profile; balance sheet size and composition; funding needs in a stressed environment, inclusive of contingent cash outflows; legal entity, regional and segment liquidity requirements; regulatory requirements; and collateral requirements. In addition, our GLR includes a discretionary surplus based on risk tolerance and is subject to change depending on market and Firm-specific events. The GLR is held within the Parent Company and its major operating subsidiaries. The GLR consists of cash and unencumbered securities sourced from trading assets, investment securities and securities received as collateral.

GLR by Type of Investment

$ in millions	**At December 31, 2018**	At December 31, 2017
Cash deposits with banks[1]	**$ 10,441**	$ 7,167
Cash deposits with central banks[1]	**36,109**	33,791
Unencumbered highly liquid securities:		
U.S. government obligations	**119,138**	73,422
U.S. agency and agency mortgage-backed securities	**41,473**	55,750
Non-U.S. sovereign obligations[2]	**39,869**	19,424
Other investment grade securities	**2,705**	3,106
Total	**$ 249,735**	$ 192,660

1. Included in Cash and due from banks and Interest bearing deposits with banks in the balance sheets.
2. Primarily composed of unencumbered Japanese, U.K., German, Brazilian and French government obligations.

GLR Managed by Bank and Non-Bank Legal Entities

$ in millions	**At December 31, 2018**	At December 31, 2017	Average Daily Balance Three Months Ended **December 31, 2018**
Bank legal entities			
Domestic	**$ 88,809**	$ 70,364	**$ 79,824**
Foreign	**4,896**	4,756	**4,691**
Total Bank legal entities	**93,705**	75,120	**84,515**
Non-Bank legal entities			
Domestic:			
Parent Company	**64,262**	41,642	**62,315**
Non-Parent Company	**40,936**	35,264	**36,501**
Total Domestic	**105,198**	76,906	**98,816**
Foreign	**50,832**	40,634	**57,957**
Total Non-Bank legal entities	**156,030**	117,540	**156,773**
Total	**$ 249,735**	$ 192,660	**$ 241,288**

Regulatory Liquidity Framework

Liquidity Coverage Ratio

We and our U.S. Bank Subsidiaries are subject to LCR requirements, including a requirement to calculate each entity's LCR on each business day. The requirements are designed to ensure that banking organizations have sufficient HQLA to cover net cash outflows arising from significant stress over 30 calendar days, thus promoting the short-term resilience of the liquidity risk profile of banking organizations.

The regulatory definition of HQLA is substantially the same as our GLR. GLR includes cash placed at institutions other than central banks that is considered an inflow for LCR purposes. HQLA includes a portion of cash placed at central banks, certain unencumbered investment grade corporate bonds and publicly traded common equities, which do not meet the definition of our GLR.

Based on our daily calculations, we and our U.S. Bank Subsidiaries are compliant with the minimum required LCR of 100%.

HQLA by Type of Asset and LCR

	Average Daily Balance Three Months Ended	
$ in millions	**December 31, 2018**	September 30, 2018
HQLA		
Cash deposits with central banks	**$ 44,225**	$ 48,962
Securities[1]	**150,792**	140,060
Total	**$ 195,017**	$ 189,022
LCR	**145%**	135%

1. Primarily includes U.S. Treasuries, U.S. agency mortgage-backed securities, sovereign bonds and investment grade corporate bonds.

The increase in the LCR in the quarter ended December 31, 2018 is due to increased HQLA consistent with higher liquidity levels, and a reduction in net outflows (*i.e.,* the denominator of the ratio), primarily driven by lower secured funding and lending commitment outflows.

The Firm's calculations are based on our current understanding of the LCR and other factors, which may be subject to change as we receive additional clarification and implementation guidance from regulators and as the interpretation of the LCR evolves over time.

Net Stable Funding Ratio

The objective of the NSFR is to reduce funding risk over a one-year horizon by requiring banking organizations to fund their activities with sufficiently stable sources of funding in order to mitigate the risk of future funding stress.

The Basel Committee on Banking Supervision ("Basel Committee") has previously finalized the NSFR framework. In May 2016, the U.S. banking agencies issued a proposal to implement the NSFR in the U.S. The proposal would require a covered company to maintain an amount of available stable funding, which is measured with reference to sources of funding, including deposit and debt liabilities, that is no less than the amount of its required stable funding, which is measured by applying standardized weightings to its assets, derivatives exposures and certain other items.

If adopted as proposed, the requirements would apply to us and our U.S. Bank Subsidiaries. We continue to evaluate the potential impact of the proposal, which is subject to further rulemaking procedures. Our preliminary estimates, based on the current proposal, indicate that actions will be necessary to meet the requirement, which we would expect to accomplish by the effective date of any final rule. Our preliminary estimates are subject to risks and uncertainties that may cause actual results based on the final rule to differ materially from estimates. For a discussion of risks and uncertainties that may affect our future results, see "Risk Factors."

Funding Management

We manage our funding in a manner that reduces the risk of disruption to our operations. We pursue a strategy of diversification of secured and unsecured funding sources (by product, investor and region) and attempt to ensure that the tenor of our liabilities equals or exceeds the expected holding period of the assets being financed.

We fund our balance sheet on a global basis through diverse sources. These sources include our equity capital, borrowings, securities sold under agreements to repurchase, securities lending, deposits, letters of credit and lines of credit. We have active financing programs for both standard and structured products targeting global investors and currencies.

Secured Financing

The liquid nature of the marketable securities and short-term receivables arising principally from sales and trading activities in the Institutional Securities business segment provides us with flexibility in managing the composition and size of our balance sheet. Our goal is to achieve an optimal mix of durable secured and unsecured financing. Secured financing investors principally focus on the quality of the eligible collateral posted. Accordingly, we actively manage our secured financings based on the quality of the assets being funded.

We have established longer tenor secured funding requirements for less liquid asset classes, for which funding may be at risk in the event of a market disruption. We define highly liquid assets as government-issued or government-guaranteed securities with a high degree of fundability and less liquid assets as those that do not meet these criteria.

To further minimize the refinancing risk of secured financing for less liquid assets, we have established concentration limits to diversify our investor base and reduce the amount of monthly maturities for secured financing of less liquid assets. Furthermore, we obtain term secured funding liabilities in excess of less liquid inventory as an additional risk mitigant to replace maturing trades in the event that secured financing markets, or our ability to access them, become limited. As a component of the Liquidity Risk Management Framework, we hold a portion of our GLR against the potential disruption to our secured financing capabilities.

We generally maintain a pool of liquid and easily fundable securities, which takes into account HQLA classifications consistent with LCR definitions, and other regulatory requirements, and provides a valuable future source of liquidity.

Collateralized Financing Transactions

$ in millions	At December 31, 2018	At December 31, 2017
Securities purchased under agreements to resell and Securities borrowed	$ 214,835	$ 208,268
Securities sold under agreements to repurchase and Securities loaned	$ 61,667	$ 70,016
Securities received as collateral[1]	$ 7,668	$ 13,749

	Average Daily Balance Three Months Ended	
$ in millions	December 31, 2018	December 31, 2017
Securities purchased under agreements to resell and Securities borrowed	$ 213,974	$ 214,343
Securities sold under agreements to repurchase and Securities loaned	$ 57,677	$ 66,879

1. Securities received as collateral are included in Trading assets in the balance sheets.

See Notes 2 and 6 to the financial statements for more details on collateralized financing transactions.

In addition to the collateralized financing transactions shown in the previous table, we engage in financing transactions collateralized by customer-owned securities, which are segregated in accordance with regulatory requirements. Receivables under these financing transactions, primarily margin loans, are included in Customer and other receivables in the balance sheets, and payables under these financing transactions, primarily to prime brokerage customers, are included in Customer and other payables in the balance sheets. Our risk exposure on these transactions is mitigated by collateral maintenance policies that limit our credit exposure to customers and liquidity reserves held against this risk exposure.

Unsecured Financing

We view deposits and borrowings as stable sources of funding for unencumbered securities and non-security assets. Our unsecured financings include structured borrowings, which are primarily composed of: instruments whose payments and redemption values are linked to the performance of a specific index, a basket of stocks, a specific equity security, a commodity, a credit exposure or basket of credit exposures; and instruments with various interest-rate-related features, including step-ups, step-downs and zero coupons. When appropriate, we may use derivative products to conduct asset and liability management and to make adjustments to our interest rate and structured borrowings risk profile (see Note 4 to the financial statements).

Deposits

$ in millions	At December 31, 2018	At December 31, 2017
Savings and demand deposits:		
Brokerage sweep deposits[1]	$ 141,255	$ 135,946
Savings and other	13,642	8,541
Total Savings and demand deposits	154,897	144,487
Time deposits	32,923	14,949
Total	$ 187,820	$ 159,436

1. Amounts represent balances swept from client brokerage accounts.

Deposits are primarily sourced from our Wealth Management clients and are considered to have stable, low-cost funding characteristics. Total deposits at December 31, 2018 increased compared with December 31, 2017, driven by increases in Time deposits, which primarily consist of brokered certificates of deposit with fixed interest rates and maturity dates. The increase in Brokerage sweep deposits reflects the redesign of our brokerage sweep deposit program in 2018, resulting in inflows of approximately $18 billion, partially offset by client deployment of cash into investments throughout the year. The increase in Savings and other deposits was driven by promotional client offerings.

The inflows related to the redesign of our brokerage sweep deposit program corresponded with outflows from Liquidity products AUM in the Investment Management business segment (see "Business Segments—Investment Management—Assets Under Management or Supervision" for more information).

Borrowings by Remaining Maturity at December 31, 2018[1]

$ in millions	Parent Company	Subsidiaries	Total
Original maturities of one year or less	$ —	$ 1,545	$ 1,545
Original maturities greater than one year			
2019	$ 19,849	$ 4,845	$ 24,694
2020	18,575	2,705	21,280
2021	21,208	3,434	24,642
2022	14,969	1,816	16,785
2023	11,553	2,385	13,938
Thereafter	70,093	16,685	86,778
Total	$ 156,247	$ 31,870	$ 188,117
Total Borrowings	$ 156,247	$ 33,415	$ 189,662

1. Original maturity in the table is generally based on contractual final maturity. For borrowings with put options, remaining maturity represents the earliest put date.

Borrowings of $189,662 million as of December 31, 2018 remained relatively unchanged compared with $192,582 million at December 31, 2017.

We believe that accessing debt investors through multiple distribution channels helps provide consistent access to the unsecured markets. In addition, the issuance of borrowings with original maturities greater than one year allows us to reduce reliance on short-term credit sensitive instruments. Borrowings with original maturities greater than one year are generally managed to achieve staggered maturities, thereby mitigating refinancing risk, and to maximize investor diversification through sales to global institutional and retail clients across regions, currencies and product types.

The availability and cost of financing to us can vary depending on market conditions, the volume of certain trading and lending activities, our credit ratings and the overall availability of credit. We also engage in, and may continue to engage in, repurchases of our borrowings in the ordinary course of business.

For further information on Borrowings, see Note 11 to the financial statements.

Credit Ratings

We rely on external sources to finance a significant portion of our daily operations. The cost and availability of financing generally are impacted by our credit ratings, among other things. In addition, our credit ratings can have an impact on certain trading revenues, particularly in those businesses where longer-term counterparty performance is a key consideration, such as OTC derivative transactions, including credit derivatives and interest rate swaps. When determining credit ratings, rating agencies consider company-specific factors, other industry factors such as regulatory or legislative changes and the macroeconomic environment, among other things.

Our credit ratings do not include any uplift from perceived government support from any rating agency given the significant progress of U.S. financial reform legislation and regulations. Some rating agencies have stated that they currently incorporate various degrees of credit rating uplift from non-governmental third-party sources of potential support.

Parent Company and MSBNA Senior Unsecured Ratings at February 21, 2019

	Parent Company		
	Short-Term Debt	Long-Term Debt	Rating Outlook
DBRS, Inc.	**R-1 (middle)**	**A (high)**	**Stable**
Fitch Ratings, Inc.	**F1**	**A**	**Stable**
Moody's Investors Service, Inc.	**P-2**	**A3**	**Stable**
Rating and Investment Information, Inc.	**a-1**	**A-**	**Positive**
S&P Global Ratings	**A-2**	**BBB+**	**Stable**

	MSBNA		
	Short-Term Debt	Long-Term Debt	Rating Outlook
Fitch Ratings, Inc.	**F1**	**A+**	**Stable**
Moody's Investors Service, Inc.	**P-1**	**A1**	**Stable**
S&P Global Ratings	**A-1**	**A+**	**Stable**

Incremental Collateral or Terminating Payments

In connection with certain OTC derivatives and certain other agreements where we are a liquidity provider to certain financing vehicles associated with the Institutional Securities business segment, we may be required to provide additional collateral, immediately settle any outstanding liability balances with certain counterparties or pledge additional collateral to certain clearing organizations in the event of a future credit rating downgrade irrespective of whether we are in a net asset or net liability position. See Note 4 to the financial statements for additional information on OTC derivatives that contain such contingent features.

While certain aspects of a credit rating downgrade are quantifiable pursuant to contractual provisions, the impact it would have on our business and results of operations in future periods is inherently uncertain and would depend on a number of interrelated factors, including, among other things, the magnitude of the downgrade, the rating relative to peers, the rating assigned by the relevant agency pre-downgrade, individual client behavior and future mitigating actions we might take. The liquidity impact of additional collateral requirements is included in our Liquidity Stress Tests.

Capital Management

We view capital as an important source of financial strength and actively manage our consolidated capital position based upon, among other things, business opportunities, risks, capital availability and rates of return together with internal capital policies, regulatory requirements and rating agency guidelines. In the future, we may expand or contract our capital base to address the changing needs of our businesses.

Common Stock

$ in millions	2018	2017
Repurchases of common stock under our Share Repurchase Program	$ 4,860	$ 3,750

From time to time we repurchase our outstanding common stock as part of our share repurchase program. On April 18, 2018, we entered into a sales plan with Mitsubishi UFJ Financial Group, Inc. ("MUFG"), whereby MUFG sells shares of the Firm's common stock to us as part of our share repurchase program. The sales plan is only intended to maintain MUFG's ownership percentage below 24.9% in order to comply with MUFG's passivity commitments to the Board of Governors of the Federal Reserve System ("Federal Reserve") and has no impact on the strategic alliance between MUFG and us, including our joint ventures in Japan. For a description of our share repurchase program, see "Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities."

For a description of our capital plan, see "Liquidity and Capital Resources—Regulatory Requirements—Capital Plans and Stress Tests."

Common Stock Dividend Announcement

Announcement date	January 17, 2019
Amount per share	$0.30
Date paid	February 15, 2019
Shareholders of record as of	January 31, 2019

Preferred Stock Dividend Announcement

Announcement date	December 17, 2018
Date paid	January 15, 2019
Shareholders of record as of	December 31, 2018

For additional information on common and preferred stock, see Note 15 to the financial statements.

Off-Balance Sheet Arrangements and Contractual Obligations

Off-Balance Sheet Arrangements

We enter into various off-balance sheet arrangements, including through unconsolidated SPEs and lending-related financial instruments (*e.g.*, guarantees and commitments), primarily in connection with the Institutional Securities and Investment Management business segments.

We utilize SPEs primarily in connection with securitization activities. For information on our securitization activities, see Note 13 to the financial statements.

For information on our commitments, obligations under certain guarantee arrangements and indemnities, see Note 12 to the financial statements. For further information on our lending commitments, see "Quantitative and Qualitative Disclosures about Risk—Credit Risk—Lending Activities Included in Loans and Trading Assets."

Contractual Obligations

	At December 31, 2018				
	Payments Due in:				
$ in millions	2019	2020-2021	2022-2023	Thereafter	Total
Borrowings[1]	$ 24,694	$ 45,922	$ 30,723	$ 86,778	$ 188,117
Other secured financings[1]	5,900	600	112	160	6,772
Contractual interest payments[2]	4,895	7,606	5,565	15,842	33,908
Time deposits—principal and interest payments	17,351	12,830	2,791	191	33,163
Operating leases—premises[3]	677	1,259	1,062	2,639	5,637
Purchase obligations	724	614	177	153	1,668
Total[4]	$ 54,241	$ 68,831	$ 40,430	$ 105,763	$ 269,265

1. Amounts presented for Borrowings and Other secured financings are financings with original maturities greater than one year. For further information on Borrowings and Other secured financings, see Note 11 to the financial statements.
2. Amounts represent estimated future contractual interest payments related to unsecured borrowings with original maturities greater than one year based on applicable interest rates at December 31, 2018.
3. For further information on operating leases covering premises and equipment, see Note 12 to the financial statements.
4. Amounts exclude unrecognized tax benefits, as the timing and amount of future cash payments are not determinable at this time (see Note 20 to the financial statements for further information).

In the normal course of business, we enter into various contractual obligations that may require future cash payments.

Purchase obligations for goods and services include payments for, among other things, consulting, outsourcing, computer and telecommunications maintenance agreements, and certain transmission, transportation and storage contracts related to the commodities business. Purchase obligations at December 31, 2018 reflect the minimum contractual obligation under legally enforceable contracts with contract terms that are both fixed and determinable.

Regulatory Requirements

Regulatory Capital Framework

We are an FHC under the Bank Holding Company Act of 1956, as amended ("BHC Act"), and are subject to the regulation and oversight of the Federal Reserve. The Federal Reserve establishes capital requirements for us, including "well-capitalized" standards, and evaluates our compliance with such capital requirements. The OCC establishes similar capital requirements and standards for our U.S. Bank Subsidiaries. For us to remain an FHC, we must remain well-capitalized in accordance with standards established by the Federal Reserve and our U.S. Bank Subsidiaries must remain well-capitalized in accordance with standards established by the OCC. For additional information on regulatory capital requirements for our U.S. Bank Subsidiaries, see Note 14 to the financial statements.

Regulatory capital requirements established by the Federal Reserve are largely based on the Basel III capital standards established by the Basel Committee and also implement certain provisions of the Dodd-Frank Wall Street Reform and Consumer Protection Act ("Dodd-Frank Act").

Regulatory Capital Requirements

We are required to maintain minimum risk-based and leverage-based capital ratios under regulatory capital requirements.

Risk-Based Regulatory Capital. Minimum risk-based capital ratio requirements apply to Common Equity Tier 1 capital, Tier 1 capital and Total capital (which includes Tier 2 capital). Certain adjustments to and deductions from capital are required for purposes of determining these ratios, such as goodwill, intangible assets, certain deferred tax assets, other amounts in AOCI and investments in the capital instruments of unconsolidated financial institutions.

In addition to the minimum risk-based capital ratio requirements, we are subject to the following buffers in 2019:

- A greater than 2.5% Common Equity Tier 1 capital conservation buffer;
- The Common Equity Tier 1 G-SIB capital surcharge, currently at 3%; and
- Up to a 2.5% Common Equity Tier 1 CCyB, currently set by U.S. banking agencies at zero.

In 2018 and 2017, each of the buffers was 75% and 50%, respectively, of the fully phased-in 2019 requirement noted above. Failure to maintain the buffers would result in restrictions on our ability to make capital distributions, including the payment of dividends and the repurchase of stock, and to pay discretionary bonuses to executive officers. For a further discussion of the G-SIB capital surcharge, see "G-SIB Capital Surcharge" herein.

Risk-Weighted Assets. RWA reflects both our on- and off-balance sheet risk, as well as capital charges attributable to the risk of loss arising from the following:

- Credit risk: The failure of a borrower, counterparty or issuer to meet its financial obligations to us;
- Market risk: Adverse changes in the level of one or more market prices, rates, indices, volatilities, correlations or other market factors, such as market liquidity; and
- Operational risk: Inadequate or failed processes or systems, from human factors or from external events (*e.g.*, fraud, theft, legal and compliance risks, cyber attacks or damage to physical assets).

For a further discussion of our credit, market and operational risks, see "Quantitative and Qualitative Disclosures about Risk."

Our risk-based capital ratios for purposes of determining regulatory compliance are the lower of the capital ratios computed under (i) the standardized approaches for calculating credit risk and market risk RWA ("Standardized Approach") and (ii) the applicable advanced approaches for calculating credit risk, market risk and operational risk RWA ("Advanced Approach"). The credit risk RWA calculations between the two approaches differ in that the Standardized Approach requires calculation of RWA using prescribed risk weights, whereas the Advanced Approach utilizes models to calculate exposure amounts and risk weights. At December 31, 2018, our ratios for determining regulatory compliance are based on the Standardized Approach rules, while at December 31, 2017, the ratios were based on the Standardized Approach transitional rules.

Effective January 1, 2019, Common Equity Tier 1 capital, Tier 1 capital and Total capital requirements, inclusive of buffers, increase to 10.0%, 11.5% and 13.5%, respectively.

See "Total Loss-Absorbing Capacity, Long-Term Debt and Clean Holding Company Requirements" herein for additional capital requirements effective January 1, 2019.

Leverage-Based Regulatory Capital. Minimum leverage-based capital requirements include a Tier 1 leverage ratio and an SLR. The SLR became effective as a capital standard on January 1, 2018. We are required to maintain a Tier 1 SLR of 3%, as well as an enhanced SLR capital buffer of at least 2% (for a total of at least 5%) in order to avoid potential limitations on capital distributions, including dividends and stock repurchases, and discretionary bonus payments to executive officers.

Regulatory Capital Ratios

	At December 31, 2018		
	Required	Fully Phased-In	
$ in millions	Ratio	Standardized	Advanced
Risk-based capital			
Common Equity Tier 1 capital		**$ 62,086**	**$ 62,086**
Tier 1 capital		**70,619**	**70,619**
Total capital		**80,052**	**79,814**
Total RWA		**367,309**	**363,054**
Common Equity Tier 1 capital ratio	**8.6%**	**16.9%**	**17.1%**
Tier 1 capital ratio	**10.1%**	**19.2%**	**19.5%**
Total capital ratio	**12.1%**	**21.8%**	**22.0%**
Leverage-based capital			
Adjusted average assets[1]		**$ 843,074**	**N/A**
Tier 1 leverage ratio	**4.0%**	**8.4%**	**N/A**
Supplementary leverage exposure[2]		**N/A**	**$ 1,092,672**
SLR	**5.0%**	**N/A**	**6.5%**

		At December 31, 2017			
		Transitional[3]		Pro Forma Fully Phased-In	
$ in millions	Required Ratio	Standardized	Advanced	Standardized	Advanced
Risk-based capital					
Common Equity Tier 1 capital		$ 61,134	$ 61,134	$ 60,564	$ 60,564
Tier 1 capital		69,938	69,938	69,120	69,120
Total capital		80,275	80,046	79,470	79,240
Total RWA		369,578	350,212	377,241	358,324
Common Equity Tier 1 capital ratio	7.3%	16.5%	17.5%	16.1%	16.9%
Tier 1 capital ratio	8.8%	18.9%	20.0%	18.3%	19.3%
Total capital ratio	10.8%	21.7%	22.9%	21.1%	22.1%
Leverage-based capital					
Adjusted average assets[1]		$ 842,270	N/A	$ 841,756	N/A
Tier 1 leverage ratio	4.0%	8.3%	N/A	8.2%	N/A
Supplementary leverage exposure[2]		N/A	$ 1,082,683	N/A	$ 1,082,170
Pro forma SLR	5.0%	N/A	6.5%	N/A	6.4%

1. Adjusted average assets represents the denominator of the Tier 1 leverage ratio and is composed of the average daily balance of consolidated on-balance sheet assets under U.S. GAAP during the quarters ended December 31, 2018 and December 31, 2017, adjusted for disallowed goodwill, intangible assets, certain deferred tax assets, certain investments in the capital instruments of unconsolidated financial institutions and other capital deductions.
2. Supplementary leverage exposure is the sum of Adjusted average assets used in the Tier 1 leverage ratio and other adjustments, primarily (i) potential future exposure for derivative exposures, gross-up for cash collateral netting where qualifying criteria are not met, and the effective notional principal amount of sold credit protection offset by qualifying purchased credit protection; (ii) the counterparty credit risk for repo-style transactions; and (iii) the credit equivalent amount for off-balance sheet exposures.
3. Regulatory compliance at December 31, 2017 was determined based on capital ratios calculated under transitional rules.

At December 31, 2017, the pro forma fully phased-in estimated amounts and the pro forma estimated SLR utilized fully phased-in Tier 1 capital, including the fully phased-in Tier 1 capital deductions that applied beginning January 1, 2018. These pro forma fully phased-in estimates were non-GAAP financial measures as the related capital rules were not yet effective at December 31, 2017. These estimates were based on our understanding of the capital rules and other factors at the time.

Regulatory compliance was determined based on capital ratios, including regulatory capital and RWA, calculated under the transitional rules until December 31, 2017. The regulatory capital analyses in the following tables are presented using pro forma fully phased-in estimates as of December 31, 2017, which are on an equivalent basis to amounts calculated as of December 31, 2018.

Fully Phased-In Regulatory Capital

$ in millions	At December 31, 2018	At December 31, 2017[1]	Change
Common Equity Tier 1 capital			
Common stock and surplus	**$ 9,843**	$ 14,354	**$ (4,511)**
Retained earnings	**64,175**	57,577	**6,598**
AOCI	**(2,292)**	(3,060)	**768**
Regulatory adjustments and deductions:			
Net goodwill	**(6,661)**	(6,599)	**(62)**
Net intangible assets (other than goodwill and mortgage servicing assets)	**(2,158)**	(2,446)	**288**
Other adjustments and deductions[2]	**(821)**	738	**(1,559)**
Total Common Equity Tier 1 capital	**$ 62,086**	$ 60,564	**$ 1,522**
Additional Tier 1 capital			
Preferred stock	**$ 8,520**	$ 8,520	**$ —**
Noncontrolling interests	**454**	415	**39**
Other adjustments and deductions	**—**	(23)	**23**
Additional Tier 1 capital	**$ 8,974**	$ 8,912	**$ 62**
Deduction for investments in covered funds	**(441)**	(356)	**(85)**
Total Tier 1 capital	**$ 70,619**	$ 69,120	**$ 1,499**
Standardized Tier 2 capital			
Subordinated debt	**$ 8,923**	$ 9,839	**$ (916)**
Noncontrolling interests	**107**	98	**9**
Eligible allowance for credit losses	**440**	423	**17**
Other adjustments and deductions	**(37)**	(10)	**(27)**
Total Standardized Tier 2 capital	**$ 9,433**	$ 10,350	**$ (917)**
Total Standardized capital	**$ 80,052**	$ 79,470	**$ 582**
Advanced Tier 2 capital			
Subordinated debt	**$ 8,923**	$ 9,839	**$ (916)**
Noncontrolling interests	**107**	98	**9**
Eligible credit reserves	**202**	193	**9**
Other adjustments and deductions	**(37)**	(10)	**(27)**
Total Advanced Tier 2 capital	**$ 9,195**	$ 10,120	**$ (925)**
Total Advanced capital	**$ 79,814**	$ 79,240	**$ 574**

1. The pro forma fully phased-in estimates as of December 31, 2017 are non-GAAP financial measures as the related capital rules were not yet effective at December 31, 2017.
2. Other adjustments and deductions used in the calculation of Common Equity Tier 1 capital include credit spread premium over risk-free rate for derivative liabilities, net deferred tax assets, net after-tax DVA and adjustments related to AOCI.

Fully Phased-In RWA Rollforward

$ in millions	2018[1] Standardized	Advanced
Credit risk RWA		
Balance at December 31, 2017[2]	$ 301,946	$ 170,754
Change related to the following items:		
Derivatives	**(1,589)**	**661**
Securities financing transactions	**(5,492)**	**2,384**
Securitizations	**2,859**	**2,974**
Investment securities	**83**	**7,449**
Commitments, guarantees and loans	**11,302**	**10,117**
Cash	**1,728**	**1,409**
Equity investments	**(3,441)**	**(3,657)**
Other credit risk[3]	**(1,865)**	**(1,496)**
Total change in credit risk RWA	**$ 3,585**	**$ 19,841**
Balance at December 31, 2018	**$ 305,531**	**$ 190,595**
Market risk RWA		
Balance at December 31, 2017[2]	$ 75,295	$ 74,907
Change related to the following items:		
Regulatory VaR	**1,342**	**1,342**
Regulatory stressed VaR	**(2,908)**	**(2,908)**
Incremental risk charge	**1,425**	**1,425**
Comprehensive risk measure	**(2,508)**	**(2,041)**
Specific risk:		
Non-securitizations	**(5,616)**	**(5,616)**
Securitizations	**(5,252)**	**(5,252)**
Total change in market risk RWA	**$ (13,517)**	**$ (13,050)**
Balance at December 31, 2018	**$ 61,778**	**$ 61,857**
Operational risk RWA		
Balance at December 31, 2017[2]	N/A	$ 112,663
Change in operational risk RWA	**N/A**	**(2,061)**
Balance at December 31, 2018	**N/A**	**$ 110,602**
Total RWA	**$ 367,309**	**$ 363,054**

Regulatory VaR—VaR for regulatory capital requirements
1. The RWA for each category reflects both on- and off-balance sheet exposures, where appropriate.
2. The pro forma fully phased-in estimates as of December 31, 2017 are non-GAAP financial measures as the related capital rules were not yet effective at December 31, 2017.
3. Amount reflects assets not in a defined category, non-material portfolios of exposures and unsettled transactions, as applicable.

Credit risk RWA increased in 2018 under the Standardized and Advanced Approaches primarily due to increased corporate lending exposures within the Institutional Securities business segment. Under the Standardized Approach, this increase was partially offset by a reduction in RWA for Securities financing transactions due to a decline in the market value of associated securities. Under the Advanced Approach, Credit risk RWA also increased in 2018 for Investment securities driven by model revisions that increased the risk weighting for certain counterparty types.

Market risk RWA decreased in 2018 under the Standardized and Advanced Approaches primarily due to a decrease in non-securitization-specific risk charges mainly as a result of reduced exposures in equity derivatives and bonds. In addition, securitization-specific risk charges decreased primarily due to reduced exposures in mortgage-backed securities and collateralized loan obligations.

The decrease in operational risk RWA under the Advanced Approach in 2018 reflects a continued reduction in the frequency and magnitude of internal losses utilized in the operational risk capital model related to litigation and execution and processing, partially offset by an increase associated with a risk scenario update.

G-SIB Capital Surcharge

We and other U.S. G-SIBs are subject to a risk-based capital surcharge. A G-SIB must calculate its G-SIB capital surcharge under two methods and use the higher of the two surcharges. The first method considers the G-SIB's size, interconnectedness, cross-jurisdictional activity, substitutability and complexity, which is generally consistent with the methodology developed by the Basel Committee ("Method 1"). The second method uses similar inputs but replaces substitutability with the use of short-term wholesale funding ("Method 2") and generally results in higher surcharges than the first method. The G-SIB capital surcharge must be satisfied using Common Equity Tier 1 capital and functions as an extension of the capital conservation buffer. As of January 1, 2019, our current fully phased-in G-SIB surcharge is 3%. In 2018 and 2017, the phase-in amount was 75% and 50%, respectively, of the applicable surcharge (see "Risk-Based Regulatory Capital" herein).

Total Loss-Absorbing Capacity, Long-Term Debt and Clean Holding Company Requirements

The Federal Reserve has established external TLAC, long-term debt ("LTD") and clean holding company requirements for top-tier BHCs of U.S. G-SIBs ("covered BHCs"), including the Parent Company. These requirements include various definitions and restrictions, such as requiring eligible LTD to be issued by the covered BHC and be unsecured, have a maturity of one year or more from the date of issuance and not have certain derivative-linked features typically associated with certain types of structured notes. We are in compliance with all relevant TLAC requirements as of the compliance date of January 1, 2019.

The main purpose of the Federal Reserve's minimum external TLAC and LTD requirements is to ensure that covered BHCs, including the Parent Company, will have enough loss-absorbing resources at the point of failure to be recapitalized through the conversion of eligible LTD to equity or otherwise by imposing losses on eligible LTD or other forms of TLAC where an SPOE resolution strategy is used (see "Business—Supervision and Regulation—Financial Holding Company—Resolution and Recovery Planning" and "Risk Factors—Legal, Regulatory and Compliance Risk").

Under the final rule, a covered BHC is required to maintain minimum external TLAC equal to the greater of (i) 18% of total RWA and (ii) 7.5% of its total leverage exposure (the denominator of its SLR). In addition, covered BHCs must meet a separate external LTD requirement equal to the greater of (i) total RWA multiplied by the sum of 6% plus the higher of the Method 1 and Method 2 G-SIB capital surcharge applicable to the Parent Company, and (ii) 4.5% of its total leverage exposure.

In addition, the final rule imposes TLAC buffer requirements on top of both the risk-based and leverage-exposure-based external TLAC minimum requirements. The risk-based TLAC buffer is equal to the sum of 2.5%, the covered BHC's Method 1 G-SIB surcharge and the CCyB, if any, as a percentage of total RWA. The leverage-exposure-based TLAC buffer is equal to 2% of the covered BHC's total leverage exposure. Failure to maintain the TLAC buffers would result in restrictions on capital distributions and discretionary bonus payments to executive officers.

The final rule provides permanent grandfathering for debt instruments issued prior to December 31, 2016 that would be eligible LTD but for having impermissible acceleration clauses or being governed by foreign law.

Furthermore, under the clean holding company requirements of the final rule, a covered BHC is prohibited from incurring any external short-term debt or certain other liabilities, regardless of whether the liabilities are fully secured or otherwise senior to eligible LTD, or entering into certain other prohibited transactions. Certain other external liabilities, including structured notes, are subject to a cap equal to 5% of the covered BHC's outstanding external TLAC amount.

The Federal Reserve has proposed modifications to the enhanced SLR that would also make corresponding changes to the calibration of the TLAC leverage-based requirements, as well as certain other technical changes to the TLAC rule. For a further discussion of the enhanced SLR, see "Regulatory Developments—Proposed Modifications to the Enhanced SLR and to the SLR Applicable to Our U.S. Bank Subsidiaries" herein.

Capital Plans and Stress Tests

Pursuant to the Dodd-Frank Act, the Federal Reserve has adopted capital planning and stress test requirements for large BHCs, including us, which form part of the Federal Reserve's annual CCAR framework.

We must submit an annual capital plan to the Federal Reserve, taking into account the results of separate stress tests designed by us and the Federal Reserve, so that the Federal Reserve may assess our systems and processes that incorporate forward-looking projections of revenues and losses to monitor and maintain our internal capital adequacy.

The capital plan must include a description of all planned capital actions over a nine-quarter planning horizon, including any issuance or redemption of a debt or equity capital instrument, any capital distribution (*i.e.,* payments of dividends or stock repurchases) and any similar action that the Federal Reserve determines could impact our consolidated capital. The capital plan must include a discussion of how we will maintain capital above the minimum regulatory capital ratios, including the requirements that are phased in over the planning horizon, and serve as a source of strength to our U.S. Bank Subsidiaries under supervisory stress scenarios. In addition, the Federal Reserve has issued guidance setting out its heightened expectations for capital planning practices at certain large financial institutions, including us.

The capital plan rule requires that large BHCs receive no objection from the Federal Reserve before making a capital distribution. In addition, even with an approved capital plan, the BHC must seek the approval of the Federal Reserve before making a capital distribution if, among other reasons, the BHC would not meet its regulatory capital requirements after making the proposed capital distribution. A BHC's ability to make capital distributions (other than scheduled payments on Additional Tier 1 and Tier 2 capital instruments) is also limited if its net capital issuances are less than the amount indicated in its capital plan.

In addition, we are currently required to conduct semiannual company-run stress tests and are subject to an annual Dodd-Frank Act supervisory stress test conducted by the Federal Reserve. The EGRRCPA modifies certain aspects of these stress-testing requirements, reducing the number of scenarios in the Federal Reserve's supervisory stress test from three to two and modifying our obligation to perform company-run stress-tests from semiannually to annually. The Federal Reserve has issued proposed rulemakings to implement these modifications and is currently considering making further changes to its capital planning and stress testing requirements. See "Regulatory Developments" herein.

Prior to the enactment of the EGRRCPA, each of our U.S. Bank Subsidiaries was also required to conduct an annual stress test. MSBNA and MSPBNA submitted their 2018 annual company-run stress tests to the OCC on April 5, 2018 and published a summary of their stress test results on June 21, 2018. The EGRRCPA eliminated the statutory requirement to conduct company-run stress-tests for banks with less than $250 billion of total assets, which includes both of our U.S. Bank Subsidiaries.

We submitted our 2018 Capital Plan ("Capital Plan") and company-run stress test results to the Federal Reserve on

April 5, 2018. On June 21, 2018, the Federal Reserve published summary results of the Dodd-Frank Act supervisory stress tests of each large BHC, including us. On June 28, 2018, the Federal Reserve published summary results of CCAR, and we received a conditional non-objection to our Capital Plan, where the only condition was that our capital distributions not exceed the greater of the actual distributions we made over the previous four calendar quarters or the annualized average of actual distributions over the previous eight calendar quarters.

Our 2018 Capital Plan includes the repurchase of up to $4.7 billion of outstanding common stock for the period beginning July 1, 2018 through June 30, 2019 and an increase in our quarterly common stock dividend to $0.30 per share, beginning with the common stock dividend announced on July 18, 2018. The total amount of expected 2018 capital distributions is consistent with the $6.8 billion of actual dividends and gross share repurchases included in our 2017 Capital Plan. We disclosed a summary of the results of our company-run stress tests on June 21, 2018 on our Investor Relations webpage. In addition, we submitted the results of our mid-cycle company-run stress test to the Federal Reserve and on October 22, 2018 disclosed a summary of the results on our Investor Relations webpage.

For the 2019 capital planning and stress test cycle, we are required to submit our capital plan and company-run stress test results to the Federal Reserve by April 5, 2019. The Federal Reserve is expected to publish summary results of the CCAR and Dodd-Frank Act supervisory stress tests of each large BHC, including us, by June 30, 2019. We are required to disclose a summary of the results of our company-run stress tests within 15 days of the date the Federal Reserve discloses the results of the supervisory stress tests. In addition, we must submit the results of our mid-cycle company-run stress test to the Federal Reserve by October 5, 2019 and disclose a summary of the results between October 5, 2019 and November 4, 2019.

Attribution of Average Common Equity According to the Required Capital Framework

Our required capital ("Required Capital") estimation is based on the Required Capital framework, an internal capital adequacy measure. Common equity attribution to the business segments is based on capital usage calculated under the Required Capital framework, as well as each business segment's relative contribution to our total Required Capital.

The Required Capital framework is a risk-based and leverage use-of-capital measure, which is compared with our regulatory capital to ensure that we maintain an amount of going concern capital after absorbing potential losses from stress events, where applicable, at a point in time. We define the difference between our total average common equity and the sum of the average common equity amounts allocated to our business segments as Parent common equity. We generally hold Parent common equity for prospective regulatory requirements, organic growth, acquisitions and other capital needs.

The estimation and attribution of common equity to the business segments are based on the fully phased-in regulatory capital rules. The amount of capital allocated to the business segments is generally set at the beginning of each year and remains fixed throughout the year until the next annual reset unless a significant business change occurs (*e.g.*, acquisition or disposition). Differences between available and Required Capital are attributed to Parent common equity during the year.

The Required Capital framework is expected to evolve over time in response to changes in the business and regulatory environment, for example, to incorporate changes in stress testing or enhancements to modeling techniques. We will continue to evaluate the framework with respect to the impact of future regulatory requirements, as appropriate.

Average Common Equity Attribution[1]

$ in billions	**2018**	2017	2016
Institutional Securities	**$ 40.8**	$ 40.2	$ 43.2
Wealth Management	**16.8**	17.2	15.3
Investment Management	**2.6**	2.4	2.8
Parent	**9.8**	10.0	7.6
Total	**$ 70.0**	$ 69.8	$ 68.9

1. Average common equity is a non-GAAP financial measure. See "Selected Non-GAAP Financial Information" herein.

Resolution and Recovery Planning

Pursuant to the Dodd-Frank Act, we are required to periodically submit to the Federal Reserve and the FDIC a resolution plan that describes our strategy for a rapid and orderly resolution under the U.S. Bankruptcy Code in the event of our material financial distress or failure.

Our preferred resolution strategy, which is set out in our 2017 resolution plan, is an SPOE strategy. The Parent Company has amended and restated its secured support agreement with its material entities, as defined in our 2017 resolution plan. Under the secured amended and restated support agreement, upon the occurrence of a resolution scenario, the Parent Company would be obligated to contribute or loan on a subordinated basis all of its contributable material assets, other than shares in subsidiaries of the Parent Company and certain intercompany receivables, to provide capital and liquidity, as applicable, to our material entities.

The obligations of the Parent Company under the secured amended and restated support agreement are in most cases secured on a senior basis by the assets of the Parent Company (other than shares in subsidiaries of the Parent Company). As a result, claims of our material entities against the assets of the Parent Company (other than shares in subsidiaries of the Parent Company) are effectively senior to unsecured obligations of the Parent Company.

In further development of our SPOE strategy, we have created a wholly owned, direct subsidiary of the Parent Company, MS Holdings LLC (the "Funding IHC"), to serve as a resolution funding vehicle. We expect that, prior to the submission of our 2019 resolution plan by July 1, 2019, the Parent Company will contribute certain of its assets to the Funding IHC and enter into an updated secured amended and restated support agreement with the Funding IHC as well as certain other subsidiaries to facilitate the execution of our SPOE strategy. Similar to the existing secured amended and restated support agreement, the updated secured amended and restated support agreement will obligate the Parent Company to transfer capital and liquidity, as revised, to the Funding IHC, and that the Parent Company and/or the Funding IHC will recapitalize and provide liquidity to material entities in the event of our material financial distress or failure.

For more information about resolution and recovery planning requirements and our activities in these areas, including the implications of such activities in a resolution scenario, see "Business—Supervision and Regulation—Financial Holding Company—Resolution and Recovery Planning" and "Risk Factors—Legal, Regulatory and Compliance Risk."

Regulatory Developments

Proposed Stress Buffer Requirements

In April 2018, the Federal Reserve issued a proposal to integrate its annual capital planning and stress testing requirements with existing applicable regulatory capital requirements. The proposal, which would apply to certain BHCs, including us, would introduce a stress capital buffer and a stress leverage buffer (collectively, "Stress Buffer Requirements") and related changes to the capital planning and stress testing processes. Under the proposal, Stress Buffer Requirements would apply only with respect to Standardized Approach risk-based capital requirements and Tier 1 leverage regulatory capital requirements.

Under Standardized Approach risk-based capital requirements, the stress capital buffer would replace the existing Common Equity Tier 1 capital conservation buffer, which is 2.5% as of January 1, 2019. The Standardized Approach stress capital buffer would equal the greater of (i) the maximum decline in our Common Equity Tier 1 capital ratio under the severely adverse scenario over the supervisory stress test measurement period plus the sum of the ratios of the dollar amount of our planned common stock dividends to our projected RWA for each of the fourth through seventh quarters of the supervisory stress test projection period and (ii) 2.5%. Regulatory capital requirements under the Standardized Approach would include the stress capital buffer, as summarized above, as well as our Common Equity Tier 1 G-SIB capital surcharge and any applicable Common Equity Tier 1 CCyB.

Like the stress capital buffer, the stress leverage buffer would be calculated based on the results of our annual supervisory stress tests. The stress leverage buffer would equal the maximum decline in our Tier 1 leverage ratio under the severely adverse scenario, plus the sum of the ratios of the dollar amount of our planned common stock dividends to our projected leverage ratio denominator for each of the fourth through seventh quarters of the supervisory stress test projection period. No floor would be established for the stress leverage buffer, which would apply in addition to the current minimum Tier 1 leverage ratio of 4%.

The proposal would make related changes to capital planning and stress testing processes for BHCs subject to the Stress Buffer Requirements. In particular, for purposes of determining the size of Stress Buffer Requirements, the proposal would include only projected capital actions to planned common stock dividends in the fourth through seventh quarters of the stress test projection period and would assume that BHCs maintain a constant level of assets and RWA throughout the supervisory stress test projection period.

The proposal does not change regulatory capital requirements under the Advanced Approach or the SLR, although the Federal Reserve and the OCC have separately proposed to modify the enhanced SLR requirements, as summarized below. If the proposal is adopted in its current form, limitations on capital distributions and discretionary bonus payments to executive officers would be determined by the most stringent limitation, if any, as determined under Standardized Approach risk-based capital requirements or the Tier 1 leverage ratio, inclusive of Stress Buffer Requirements, or the Advanced Approach or SLR or TLAC requirements, inclusive of applicable buffers.

While the proposal included an intended effective date of October 1, 2019, the Federal Reserve has not yet taken action to finalize or implement Stress Buffer Requirements.

Proposed Modifications to the Enhanced SLR and to the SLR Applicable to Our U.S. Bank Subsidiaries

The Federal Reserve has proposed modifications to the enhanced SLR that would replace the current 2% enhanced SLR buffer applicable to U.S. G-SIBs, including us, with a leverage buffer equal to 50% of our G-SIB capital surcharge.

Under the proposal, our enhanced SLR buffer would become 1.5%, for a total enhanced SLR requirement of 4.5%, assuming that our G-SIB capital surcharge remains the same when the proposal becomes effective.

The Federal Reserve and the OCC have also proposed to modify the well-capitalized SLR standard applicable to our U.S. Bank Subsidiaries. The requirement would change from the current 6% to 3% plus 50% of our G-SIB capital surcharge, for a total well-capitalized SLR requirement of 4.5% for our U.S. Bank Subsidiaries, assuming that our G-SIB capital surcharge remains the same when the proposal becomes effective.

Regulatory Capital and Stress Testing Developments Related to Implementation of the Current Expected Credit Losses Methodology

In December 2018, the U.S. banking agencies finalized revisions to the regulatory capital framework applicable to banking organizations, including us and our U.S. Bank Subsidiaries, to address the new accounting standard for credit losses, known as a CECL methodology that will be effective January 1, 2020. For a further discussion of CECL, see "Accounting Development Updates—Financial Instruments—Credit Losses."

The revisions modify the regulatory capital rules to identify which credit loss allowances under the new accounting standard are eligible for inclusion in regulatory capital and provide banking organizations the option to phase in, over a three-year period, the adverse effects on regulatory capital that may result from the adoption of the new accounting standard. A banking organization that has adopted a CECL methodology must include the provision for credit losses beginning in the 2020 stress test cycle.

In addition, the Federal Reserve issued a statement that it will maintain the current framework for calculating allowances on loans in the supervisory stress test through the 2021 cycle.

Proposed Standardized Approach for Counterparty Credit Risk

The U.S. banking agencies have issued a proposal to incorporate the standardized approach for counterparty credit risk ("SA-CCR"), a new derivatives counterparty exposure methodology, into the regulatory capital framework and related regulatory standards. As proposed, SA-CCR would replace the current exposure method, on a mandatory basis, in our and our U.S. Bank Subsidiaries' Standardized Approach RWA, central counterparty default fund contributions and, in modified form, in Supplementary Leverage Ratio exposure calculations. SA-CCR would be available as an alternative in our and our U.S. Bank Subsidiaries' Advanced Approach RWA for trade exposures, in single counterparty credit limits applicable to us, and in bank lending limits applicable to our U.S. Bank Subsidiaries. The proposal would require us and our U.S. Bank Subsidiaries to implement SA-CCR by July 1, 2020, with early adoption permitted after the rule is finalized.

Other Matters

U.K. Withdrawal from the E.U.

Following the U.K. electorate vote to leave the E.U., the U.K. invoked Article 50 of the Lisbon Treaty on March 29, 2017, which triggered a two-year period, subject to extension (which would need the unanimous approval of the E.U. Member States), during which the U.K. government negotiated a form of withdrawal agreement with the E.U. The withdrawal agreement was rejected by the U.K. Parliament on January 15, 2019, and the U.K. government is in the process of negotiating changes to the withdrawal agreement that would be acceptable to the U.K. Parliament and the E.U.

We are continuing to prepare our European operations regardless of whether or not a withdrawal or transition agreement is reached. For example, we are taking steps to make changes to our European operations in an effort to ensure that we can continue to provide cross-border banking and investment and other services in E.U. Member States without the need for separate regulatory authorizations in each member state through the use of E.U. "passporting" arrangements, which allow for such cross-border activity. In the event that our U.K. licensed entities are unable to rely on E.U. passporting rights to provide services, we will adjust our operations in Europe to be able to carry out activities from within the E.U. These changes will include use of: a new licensed investment firm, Morgan Stanley Europe S.E., based in Germany, which will passport throughout the E.U. and serve E.U.-based clients where required; our existing German licensed bank, Morgan Stanley Bank AG, which will provide licensable banking activities where required; new licensed entities based in Ireland for licensable asset management activities; as well as branches of the previously noted entities in the E.U. and our existing regulated operations in France and Spain. We are continuing to build out the capabilities of these entities, including engagement with clients and local regulators. We also expect to add personnel to certain of our existing offices in the E.U.

However, given the present political uncertainty, it is currently unclear what the final post-Brexit structure of our European operations will be. For a further discussion of the potential impact of the U.K.'s withdrawal from the E.U. on our operations, see "Risk Factors—International Risk". For further information regarding our exposure to the U.K., see also "Quantitative and Qualitative Disclosures about Risk—Credit Risk—Country Risk Exposure."

Expected Replacement of London Interbank Offered Rate and Replacement or Reform of Other Interest Rates

Central banks around the world, including the Federal Reserve, have commissioned working groups of market participants and official sector representatives with the goal of finding suitable replacements for LIBOR and replacements or reforms of other interest rate benchmarks, such as EURIBOR and EONIA (collectively, the "IBORs"). It is expected that a transition away from the widespread use of such rates to alternative reference rates selected by these central bank committees and working groups and other potential interest rate benchmark reforms, will occur over the course of the next few years. Although the full impact of such reforms and actions, together with any transition away from the IBORs, including the potential or actual discontinuance of any IBOR publication, remains unclear, we are preparing to transition from the IBORs to these alternative reference rates.

Our transition plan includes a number of key steps, including continued engagement with central bank and industry working groups and regulators, active client engagement, internal operational readiness, and risk management, among other things, to promote the transition to alternative reference rates.

There remain, however, a number of unknown factors regarding the transition from the IBORs and/or interest rate benchmark reforms that could impact our business, including, for example, the pace of the transition to replacement or reformed rates, the specific terms and parameters for and market acceptance of the alternative reference rates, prices of and the liquidity of trading markets for products based on the alternative reference rates, and our ability to transition to and develop appropriate systems and analytics for one or more alternative reference rates. For a further discussion of the various risks we face in connection with the expected replacement of the IBORs and/or reform of interest rate benchmarks on our operations, see "Risk Factors—Legal, Regulatory and Compliance Risk."

Quantitative and Qualitative Disclosures about Risk

Risk Management

Overview

Risk is an inherent part of our businesses and activities. We believe effective risk management is vital to the success of our business activities. Accordingly, we have an Enterprise Risk Management ("ERM") framework to integrate the diverse roles of risk management into a holistic enterprise structure and to facilitate the incorporation of risk assessment into decision-making processes across the Firm.

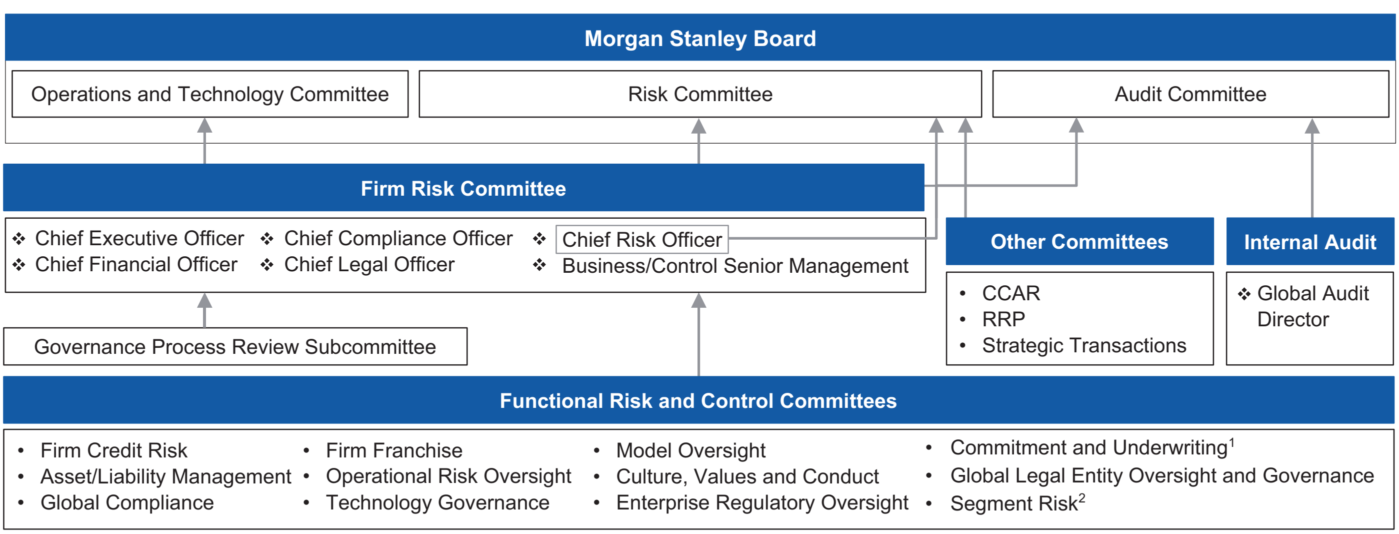
We have policies and procedures in place to identify, measure, monitor, advise, challenge and control the principal risks involved in the activities of the Institutional Securities, Wealth Management and Investment Management business segments, as well as at the Parent Company level. The principal risks involved in our business activities include market (including non-trading interest rate risk), credit, operational, model, compliance, cybersecurity, liquidity, strategic, reputational and conduct risk. Strategic risk is integrated into our business planning, embedded in the evaluation of all principal risks and overseen by the Board.

The cornerstone of our risk management philosophy is the pursuit of risk-adjusted returns through prudent risk taking that protects our capital base and franchise. This philosophy is implemented through the ERM framework. Five key principles underlie this philosophy: integrity, comprehensiveness, independence, accountability and transparency. To help ensure the efficacy of risk management, which is an essential component of our reputation, senior management requires thorough and frequent communication and the appropriate escalation of risk matters. The fast-paced, complex and constantly evolving nature of global financial markets requires us to maintain a risk management culture that is incisive, knowledgeable about specialized products and markets, and subject to ongoing review and enhancement.

Our risk appetite defines the types of risk that the Firm is willing to accept in pursuit of our strategic objectives and business plan, taking into account the interest of clients and fiduciary duties to shareholders, as well as capital and other regulatory requirements. This risk appetite is embedded in our risk culture and linked to our short-term and long-term strategic, capital and financial plans, as well as compensation programs. This risk appetite and the related Board-level risk limits and risk tolerance statements are reviewed and approved by the Risk Committee of the Board ("BRC") and the Board on at least an annual basis.

Risk Governance Structure

Risk management at the Firm requires independent Firm-level oversight, accountability of our business divisions, and effective communication of risk matters across the Firm, to senior management and ultimately to the Board. Our risk governance structure is set forth in the chart below and also includes risk managers, committees, and groups within and across the business segments and operating legal entities. The ERM framework, composed of independent but complementary entities, facilitates efficient and comprehensive supervision of our risk exposures and processes.



1. Committees include the Capital Commitment Committee, Global Large Loan Committee, Equity Underwriting Committee, Leveraged Finance Underwriting Committee and Municipal Capital Commitment Committee.
2. Committees include the Securities Risk Committee, Wealth Management Risk Committee and Investment Management Risk Committee.

Morgan Stanley Board of Directors

The Board has oversight of the ERM framework and is responsible for helping to ensure that our risks are managed in a sound manner. The Board has authorized the committees within the ERM framework to help facilitate our risk oversight responsibilities. As set forth in our Corporate Governance Policies, the Board also oversees, and receives reports on, our financial performance, strategy and business plans, as well as our practices and procedures relating to reputational and franchise risk, and culture, values and conduct.

Risk Committee of the Board

The BRC assists the Board in its oversight of the ERM framework; oversees major risk exposures of the Firm, including market, credit, operational, model, liquidity, and reputational risk, against established risk measurement methodologies and the steps management has taken to monitor and control such exposures; oversees our risk appetite statement, including risk limits and tolerances; reviews capital, liquidity and funding strategy and related guidelines and policies; reviews the contingency funding plan and internal capital adequacy assessment process and capital plan; oversees our significant risk management and risk assessment guidelines and policies; oversees the performance of the Chief Risk Officer; reviews reports from our Strategic Transactions Committee, CCAR Committee, and Resolution and Recovery Planning ("RRP") Committee; reviews new product risk, emerging risks and regulatory matters; and reviews the Internal Audit reports on the assessment of the risk management, liquidity and capital functions. The BRC reports to the entire Board on a regular basis, and coordinates with other Board committees with respect to oversight of risk management and risk assessment guidelines.

Audit Committee of the Board

The BAC oversees the integrity of our financial statements, compliance with legal and regulatory requirements and system of internal controls; oversees risk management and risk assessment guidelines in coordination with the Board, BRC and Operations and Technology Committee of the Board ("BOTC") and reviews the major legal and compliance risk exposures of the Firm and the steps management has taken to monitor and control such exposures; selects, determines the fees, evaluates and, when appropriate, replaces the independent auditor; oversees the qualifications, independence and performance of our independent auditor, and pre-approves audit and permitted non-audit services; oversees the performance of our Global Audit Director; and, after review, recommends to the Board the acceptance and inclusion of the annual audited financial statements in the Firm's Annual Report on Form 10-K. The BAC reports to the entire Board on a regular basis.

Operations and Technology Committee of the Board

The BOTC oversees our operations and technology strategy, including trends that may affect such strategy; reviews the operations and technology budget and significant expenditures and investments in support of such strategy; reviews the operations and technology metrics; oversees risk management and risk assessment guidelines and policies regarding operations and technology risk; reviews the major operations and technology risk exposures of the Firm, including information security and cybersecurity risks, and the steps management has taken to monitor and control such exposures; and oversees our business continuity planning. The BOTC reports to the entire Board on a regular basis.

Firm Risk Committee

The Board has also authorized the Firm Risk Committee ("FRC"), a management committee appointed and chaired by the Chief Executive Officer, which includes the most senior officers of the Firm, including the Chief Risk Officer, Chief Financial Officer and Chief Legal Officer, to help oversee the ERM framework. The FRC's responsibilities include oversight of our risk management principles, procedures and limits and the monitoring of capital levels and material market, credit, operational, model, liquidity, legal, compliance and reputational risk matters, and other risks, as appropriate, and the steps management has taken to monitor and manage such risks. The FRC also establishes and communicates risk tolerance, including aggregate Firm limits and tolerances, as appropriate. The Governance Process Review Subcommittee of the FRC oversees governance and process issues on behalf of the FRC. The FRC reports to the entire Board, the BAC, the BOTC and the BRC through the Chief Risk Officer, Chief Financial Officer and Chief Legal Officer.

Functional Risk and Control Committees

Functional risk and control committees and other committees within the ERM framework facilitate efficient and comprehensive supervision of our risk exposures and processes.

Each business segment has a risk committee that is responsible for helping to ensure that the business segment, as applicable, adheres to established limits for market, credit, operational and other risks; implements risk measurement, monitoring, and management policies, procedures, controls and systems that are consistent with the risk framework established by the FRC; and reviews, on a periodic basis, our aggregate risk exposures, risk exception experience, and the efficacy of our risk identification, measurement, monitoring and management policies and procedures, and related controls.

Chief Risk Officer

The Chief Risk Officer, who is independent of business units, reports to the BRC and the Chief Executive Officer. The Chief Risk Officer oversees compliance with our risk limits; approves exceptions to our risk limits; independently reviews material market, credit, liquidity, model and operational risks; and reviews results of risk management processes with the Board, the BRC and the BAC, as appropriate. The Chief Risk Officer also coordinates with the Chief Financial Officer regarding capital and liquidity management and works with the Compensation, Management Development and Succession Committee of the Board to help ensure that the structure and design of incentive compensation arrangements do not encourage unnecessary and excessive risk taking.

Independent Risk Management Functions

The risk management functions (Market Risk, Credit Risk, Operational Risk, Model Risk and Liquidity Risk Management departments) are independent of our business units and report to the Chief Risk Officer. These functions assist senior management and the FRC in monitoring and controlling our risk through a number of control processes. Each function maintains its own risk governance structure with specified individuals and committees responsible for aspects of managing risk. Further discussion about the responsibilities of the risk management functions may be found under "Market Risk," "Credit Risk," "Operational Risk," "Model Risk" and "Liquidity Risk."

Support and Control Groups

Our support and control groups include the Legal and Compliance Division, the Finance Division, the Operations Division, the Technology and Data Division, the Human Resources Department and Corporate Services. Our support and control groups coordinate with the business segment control groups to review the risk monitoring and risk management policies and procedures relating to, among other things, controls over financial reporting and disclosure; each business segment's market, credit and operational risk profile; liquidity risks; model risks; sales practices; reputational, legal enforceability, compliance, conduct and regulatory risk; and technological risks. Participation by the senior officers of the Firm and business segment control groups helps ensure that risk policies and procedures, exceptions to risk limits, new products and business ventures, and transactions with risk elements undergo thorough review.

Internal Audit Department

The Internal Audit Department provides independent risk and control assessment. The Internal Audit Department provides an independent assessment of the design and effectiveness of our control environment and risk management processes using a risk-based audit coverage model and audit execution methodology developed from professional auditing standards. The Internal Audit Department also reviews and tests our compliance with internal guidelines set for risk management and risk monitoring, as well as external rules and regulations governing the industry. It effects these responsibilities through periodic reviews (with specified minimum frequency) of our processes, activities, products or information systems; targeted reviews of specific controls and activities; pre-implementation or initiative reviews of new or significantly changed processes, activities, products or information systems; and special investigations and retrospective reviews required as a result of internal factors or regulatory requests. In addition to regular reports to the BAC, the Global Audit Director, who reports functionally to the BAC and administratively to the Chief Executive Officer, periodically reports to the BRC and BOTC on risk-related control issues.

Culture, Values and Conduct of Employees

Employees of the Firm are accountable for conducting themselves in accordance with our core values: *Putting Clients First, Doing the Right Thing, Leading with Exceptional Ideas* and *Giving Back*. We are committed to reinforcing and confirming adherence to the core values through our governance framework, tone from the top, management oversight, risk management and controls, and three lines of defense structure (business, control functions such as Risk Management and Compliance, and Internal Audit).

The Board is responsible for overseeing the Firm's practices and procedures relating to culture, values and conduct, as set forth in the Firm's Corporate Governance Policies. Our Culture, Values and Conduct Committee is the senior management committee that oversees the Firm-wide culture, values and conduct program. A fundamental building block of this program is the Firm's Code of Conduct, which establishes standards for employee conduct that further reinforce the Firm's commitment to integrity and ethical conduct. Every new hire and every employee annually must certify to their understanding of and adherence to the Code of Conduct. The Firm's Global Conduct Risk Management Policy also sets out a consistent global framework for managing Conduct Risk (*i.e.*, the risk arising from misconduct by employees or contingent workers) and Conduct Risk incidents at the Firm.

The employee annual performance review process includes evaluation of employee conduct related to risk management practices and the Firm's expectations. We also have several mutually reinforcing processes to identify employee conduct that may have an impact on employment status, current year compensation and/or prior year compensation. For example, the Global Incentive Compensation Discretion Policy sets forth standards for managers when making annual compensation decisions and specifically provides that managers must consider whether their employees effectively managed and/or supervised risk control practices during the performance year. Management committees from control functions periodically meet to discuss employees whose conduct is not in line with our expectations. These results are incorporated into identified employees' performance reviews and compensation and promotion decisions.

The Firm's clawback and cancellation provisions apply to deferred incentive compensation and cover a broad scope of employee conduct, including any act or omission (including with respect to direct supervisory responsibilities) that constitutes a breach of obligation to the Firm or causes a restatement of the Firm's financial results, constitutes a violation of the Firm's global risk management principles, policies and standards, or causes a loss of revenue associated with a position on which the employee was paid and the employee operated outside of internal control policies.

Risk Limits Framework

Risk limits and quantitative metrics provide the basis for monitoring risk taking activity and avoiding outsized risk taking. Our risk-taking capacity is sized through the Firm's capital planning process where losses are estimated under the Firm's BHC Severely Adverse stress testing scenario. We also maintain a comprehensive suite of risk limits and quantitative metrics to support and implement our risk appetite statement. Our risk limits support linkages between the overall risk appetite, which is reviewed by the Board, and more granular risk-taking decisions and activities.

Risk limits, once established, are reviewed and updated on at least an annual basis, with more frequent updates as necessary. Board-level risk limits address the most important Firmwide aggregations of risk, including, but not limited to, stressed market, credit and liquidity risks. Additional risk limits approved by the FRC address more specific types of risk and are bound by the higher-level Board risk limits.

Risk Management Process

In subsequent sections we discuss our risk management policies and procedures for our primary risks. This discussion primarily focuses on our Institutional Securities trading activities and corporate lending and related activities. We believe that these activities generate a substantial portion of our primary risks. These sections and the estimated amounts of our risk exposure generated by our statistical analyses are forward-looking statements. However, the analyses used to assess such risks are not predictions of future events, and actual results may vary significantly from such analyses due to events in the markets in which we operate and certain other factors described in the following paragraphs.

Market Risk

Market risk refers to the risk that a change in the level of one or more market prices, rates, indices, volatilities, correlations or other market factors, such as market liquidity, will result in losses for a position or portfolio. Generally, we incur market risk as a result of trading, investing and client facilitation activities, principally within the Institutional Securities business segment where the substantial majority of our VaR for market risk exposures is generated. In addition, we incur non-trading market risk within the Wealth Management and Investment Management business segments. The Wealth Management business segment primarily incurs non-trading market risk from lending and deposit-taking activities. The Investment Management business segment primarily incurs non-trading market risk from capital investments in alternative and other funds.

Market risk includes non-trading interest rate risk. Non-trading interest rate risk in the banking book (amounts classified for regulatory capital purposes under the banking book regime) refers to the exposure that a change in interest rates will result in prospective earnings changes for assets and liabilities in the banking book.

Sound market risk management is an integral part of our culture. The various business units and trading desks are responsible for ensuring that market risk exposures are well-managed and prudent. The control groups help ensure that these risks are measured and closely monitored and are made transparent to senior management. The Market Risk Department is responsible for ensuring transparency of material market risks, monitoring compliance with established limits and escalating risk concentrations to appropriate senior management.

To execute these responsibilities, the Market Risk Department monitors our risk against limits on aggregate risk exposures, performs a variety of risk analyses, routinely reports risk summaries, and maintains our VaR and scenario analysis systems. Market risk is also monitored through various measures: by use of statistics (including VaR and related analytical measures); by measures of position sensitivity; and through routine stress testing, which measures the impact on the value of existing portfolios of specified changes in market factors and scenarios designed by the Market Risk Department in collaboration with the business units. The material risks identified by these processes are summarized in reports produced by the Market Risk Department that are circulated to and discussed with senior management, the FRC, the BRC and the Board.

Trading Risks

Primary Market Risk Exposures and Market Risk Management

During 2018, we had exposures to a wide range of interest rates, equity prices, foreign exchange rates and commodity prices—and the associated implied volatilities and spreads—related to the global markets in which we conduct our trading activities.

We are exposed to interest rate and credit spread risk as a result of our market-making activities and other trading in interest rate-sensitive financial instruments (*e.g.*, risk arising from changes in the level or implied volatility of interest rates, the timing of mortgage prepayments, the shape of the yield curve and credit spreads). The activities from which those exposures arise and the markets in which we are active include, but are not limited to, the following: derivatives, and corporate and government debt across both developed and emerging markets and asset-backed debt, including mortgage-related securities.

We are exposed to equity price and implied volatility risk as a result of making markets in equity securities and derivatives and maintaining other positions, including positions in non-public entities. Positions in non-public entities may include, but are not limited to, exposures to private equity, venture capital, private partnerships, real estate funds and other funds. Such positions are less liquid, have longer investment horizons and are more difficult to hedge than listed equities.

We are exposed to foreign exchange rate and implied volatility risk as a result of making markets in foreign currencies and foreign currency derivatives, from maintaining foreign exchange positions and from holding non-U.S. dollar-denominated financial instruments.

We are exposed to commodity price and implied volatility risk as a result of market-making activities in commodity products related primarily to electricity, natural gas, oil and precious metals. Commodity exposures are subject to periods of high price volatility as a result of changes in supply and demand. These changes can be caused by weather conditions; physical production and transportation; or geopolitical and other events that affect the available supply and level of demand for these commodities.

We manage our trading positions by employing a variety of risk mitigation strategies. These strategies include diversification of risk exposures and hedging. Hedging activities consist of the purchase or sale of positions in related securities and financial instruments, including a variety of derivative products (*e.g.*, futures, forwards, swaps and options). Hedging activities may not always provide effective mitigation against trading losses due to differences in the terms, specific characteristics or other basis risks that may exist between the hedge instrument and the risk exposure that is being hedged.

We manage the market risk associated with our trading activities on a Firm-wide basis, on a worldwide trading division level and on an individual product basis. We manage and monitor our market risk exposures in such a way as to maintain a portfolio that we believe is well-diversified in the aggregate with respect to market risk factors and that reflects our aggregate risk tolerance as established by our senior management.

Aggregate market risk limits have been approved for the Firm across all divisions worldwide. Additional market risk limits are assigned to trading desks and, as appropriate, products and regions. Trading division risk managers, desk risk managers, traders and the Market Risk Department monitor market risk measures against limits in accordance with policies set by our senior management.

Value-at-Risk

The statistical technique known as VaR is one of the tools we use to measure, monitor and review the market risk exposures of our trading portfolios. The Market Risk Department calculates and distributes daily VaR-based risk measures to various levels of management.

We estimate VaR using a model based on volatility-adjusted historical simulation for general market risk factors and Monte Carlo simulation for name-specific risk in corporate shares, bonds, loans and related derivatives. The model constructs a distribution of hypothetical daily changes in the value of trading portfolios based on historical observation of daily changes in key market indices or other market risk factors, and information on the sensitivity of the portfolio values to these market risk factor changes.

Our VaR model uses four years of historical data with a volatility adjustment to reflect current market conditions. VaR for risk management purposes ("Management VaR") is computed at a 95% level of confidence over a one-day time horizon, which is a useful indicator of possible trading losses resulting from adverse daily market moves. The 95%/one-day VaR corresponds to the unrealized loss in portfolio value that, based on historically observed market risk factor movements, would have been exceeded with a frequency of 5%, or five times in every 100 trading days, if the portfolio were held constant for one day.

Our VaR model generally takes into account linear and non-linear exposures to equity and commodity price risk, interest rate risk, credit spread risk and foreign exchange rates. The model also takes into account linear exposures to implied volatility risks for all asset classes and non-linear exposures to implied volatility risks for equity, commodity and foreign exchange referenced products. The VaR model also captures certain implied correlation risks associated with portfolio credit derivatives, as well as certain basis risks (*e.g.,* corporate debt and related credit derivatives).

We use VaR as one of a range of risk management tools. Among their benefits, VaR models permit estimation of a portfolio's aggregate market risk exposure, incorporating a range of varied market risks and portfolio assets. One key element of the VaR model is that it reflects risk reduction due to portfolio diversification or hedging activities. However, VaR has various limitations, which include, but are not limited to: use of historical changes in market risk factors, which may not be accurate predictors of future market conditions and may not fully incorporate the risk of extreme market events that are outsized relative to observed historical market behavior or reflect the historical distribution of results beyond the 95% confidence interval; and reporting of losses in a single day, which does not reflect the risk of positions that cannot be liquidated or hedged in one day. A small proportion of market risk generated by trading positions is not included in VaR.

The modeling of the risk characteristics of some positions relies on approximations that, under certain circumstances, could produce significantly different results from those produced using more precise measures. VaR is most appropriate as a risk measure for trading positions in liquid financial markets and will understate the risk associated with severe events, such as periods of extreme illiquidity. We are aware of these and other limitations and, therefore, use VaR as only one component in our risk management oversight process. This process also incorporates stress testing and scenario analyses and extensive risk monitoring, analysis and control at the trading desk, division and Firm levels.

Our VaR model evolves over time in response to changes in the composition of trading portfolios and to improvements in modeling techniques and systems capabilities. We are committed to continuous review and enhancement of VaR methodologies and assumptions in order to capture evolving risks associated with changes in market structure and dynamics. As part of our regular process improvements, additional systematic and name-specific risk factors may be added to improve the VaR model's ability to more accurately estimate risks to specific asset classes or industry sectors.

Since the reported VaR statistics are estimates based on historical data, VaR should not be viewed as predictive of our future revenues or financial performance or of our ability to monitor and manage risk. There can be no assurance that our actual losses on a particular day will not exceed the VaR amounts indicated in the following tables and paragraphs or that such losses will not occur more than five times in 100 trading days for a 95%/one-day VaR. VaR does not predict the magnitude of losses that, should they occur, may be significantly greater than the VaR amount.

VaR statistics are not readily comparable across firms because of differences in the firms' portfolios, modeling assumptions and methodologies. These differences can result in materially different VaR estimates across firms for similar portfolios. The impact of such differences varies depending on the factor history assumptions, the frequency with which the factor history is updated and the confidence level. As a result, VaR statistics are more useful when interpreted as indicators of trends in a firm's risk profile rather than as an absolute measure of risk to be compared across firms.

Our regulators have approved the same VaR model we use for risk management purposes for use in regulatory calculations.

The portfolio of positions used for Management VaR differs from that used for Regulatory VaR. Management VaR contains certain positions that are excluded from Regulatory VaR. Examples include counterparty CVA and related hedges, as well as loans that are carried at fair value and associated hedges.

The following table presents the Management VaR for the Trading portfolio, on a period-end, annual average, and annual high and low basis. To further enhance the transparency of the traded market risk, the Credit Portfolio VaR has been disclosed as a separate category from the Primary Risk Categories. The Credit Portfolio includes counterparty CVA and related hedges, as well as loans that are carried at fair value and associated hedges.

95%/One-Day Management VaR

	2018			
$ in millions	Period End	Average	High[2]	Low[2]
Interest rate and credit spread	$ 38	$ 34	$ 51	$ 25
Equity price	14	14	18	11
Foreign exchange rate	13	11	16	7
Commodity price	13	9	18	7
Less: Diversification benefit[1]	(27)	(27)	N/A	N/A
Primary Risk Categories	$ 51	$ 41	$ 62	$ 33
Credit Portfolio	15	12	16	9
Less: Diversification benefit[1]	(9)	(8)	N/A	N/A
Total Management VaR	$ 57	$ 45	$ 67	$ 38

	2017			
$ in millions	Period End	Average	High[2]	Low[2]
Interest rate and credit spread	$ 32	$ 31	$ 44	$ 23
Equity price	11	15	26	10
Foreign exchange rate	9	10	18	6
Commodity price	7	8	11	6
Less: Diversification benefit[1]	(20)	(24)	N/A	N/A
Primary Risk Categories	$ 39	$ 40	$ 60	$ 28
Credit Portfolio	9	12	17	8
Less: Diversification benefit[1]	(5)	(8)	N/A	N/A
Total Management VaR	$ 43	$ 44	$ 64	$ 33

1. Diversification benefit equals the difference between the total Management VaR and the sum of the component VaRs. This benefit arises because the simulated one-day losses for each of the components occur on different days; similar diversification benefits also are taken into account within each component.
2. The high and low VaR values for the total Management VaR and each of the component VaRs might have occurred on different days during the quarter, and therefore, the diversification benefit is not an applicable measure.

Average total Management VaR and average Management VaR for the Primary Risk Categories were relatively unchanged from 2017.

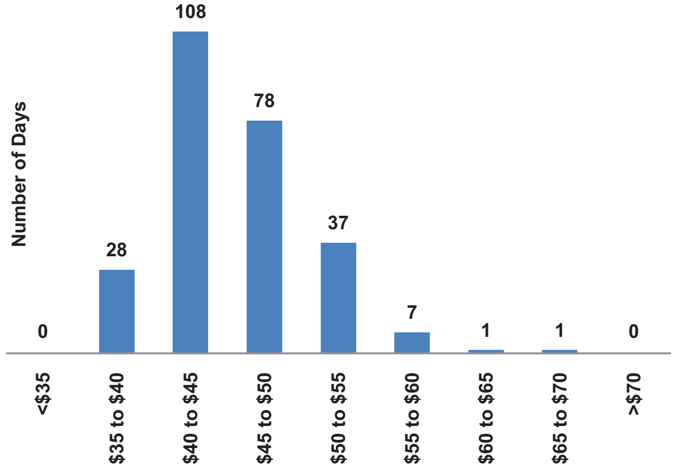
Distribution of VaR Statistics and Net Revenues

One method of evaluating the reasonableness of our VaR model as a measure of our potential volatility of net revenues is to compare VaR with corresponding actual trading revenues. Assuming no intraday trading, for a 95%/one-day VaR, the expected number of times that trading losses should exceed VaR during the year is 13, and, in general, if trading losses were to exceed VaR more than 21 times in a year, the adequacy of the VaR model would be questioned.

We evaluate the reasonableness of our VaR model by comparing the potential declines in portfolio values generated by the model with corresponding actual trading results for the Firm, as well as individual business units. For days where losses exceed the VaR statistic, we examine the drivers of trading losses to evaluate the VaR model's accuracy relative to realized trading results. There were no days in 2018 on which trading losses exceeded VaR.

Daily 95%/One-Day Total Management VaR for 2018[1]

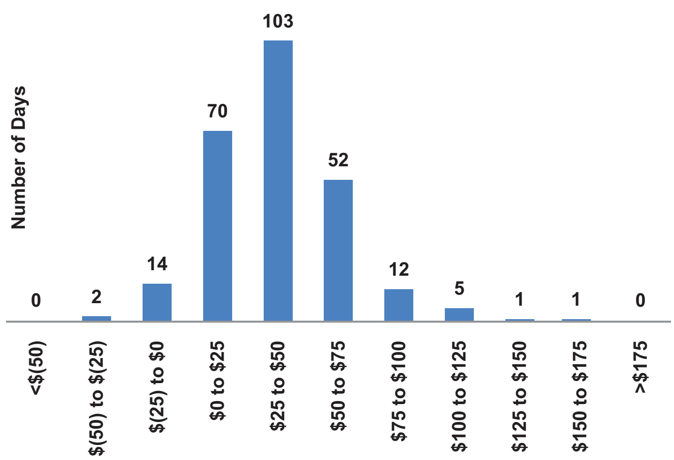
($ in millions)



1. The average 95%/one-day total Management VaR for 2018 was $45 million.

Daily Net Trading Revenues for 2018

($ in millions)



The previous histogram shows the distribution of daily net trading revenues for 2018. Daily net trading revenues include profits and losses from Interest rate and credit spread, Equity price, Foreign exchange rate, Commodity price, and Credit Portfolio positions and intraday trading activities for our trading businesses. Certain items such as fees, commissions and net interest income are excluded from daily net trading revenues and the VaR model. Revenues required for Regulatory VaR backtesting further exclude intraday trading.

Non-Trading Risks

We believe that sensitivity analysis is an appropriate representation of our non-trading risks. The following sensitivity analyses cover substantially all of the non-trading risk in our portfolio.

Credit Spread Risk Sensitivity[1]

$ in millions	At December 31, 2018	At December 31, 2017
Derivatives	$ 6	$ 6
Funding liabilities[2]	34	29

1. Amounts represent the increase in value for each 1 bps widening of our credit spread.
2. Relates to structured note liabilities carried at fair value.

Credit spread risk sensitivity for funding liabilities as of December 31, 2018 has increased compared with December 31, 2017, primarily as a result of new structured note issuances in the Fixed Income Division of the Institutional Securities business segment.

U.S. Bank Subsidiaries' Net Interest Income Sensitivity Analysis

$ in millions	At December 31, 2018	At December 31, 2017
Basis point change		
+200	$ 340	$ 489
+100	182	367
-100	(428)	(500)

The previous table presents an analysis of selected instantaneous upward and downward parallel interest rate shocks on net interest income over the next 12 months for our U.S. Bank Subsidiaries. These shocks are applied to our 12-month forecast for our U.S. Bank Subsidiaries, which incorporates market expectations of interest rates and our forecasted business activity.

We do not manage to any single rate scenario but rather manage net interest income in our U.S. Bank Subsidiaries to optimize across a range of possible outcomes, including non-parallel rate change scenarios. The sensitivity analysis assumes that we take no action in response to these scenarios, assumes there are no changes in other macroeconomic variables normally correlated with changes in interest rates, and includes subjective assumptions regarding customer and market re-pricing behavior and other factors. The change in sensitivity to interest rates between December 31, 2018 and December 31, 2017 is related to overall changes in our asset-liability profile and higher market rates.

Investments Sensitivity, Including Related Performance Fees

	Loss from 10% Decline	
$ in millions	At December 31, 2018	At December 31, 2017
Investments related to Investment Management activities	$ 298	$ 316
Other investments:		
MUMSS	165	168
Other Firm investments	179	178

MUMSS—Mitsubishi UFJ Morgan Stanley Securities Co., Ltd.

We have exposure to public and private companies through direct investments, as well as through funds that invest in these assets. These investments are predominantly equity positions with long investment horizons, a portion of which is for business facilitation purposes. The market risk related to these investments is measured by estimating the potential reduction in net income associated with a 10% decline in investment values and related impact on performance fees.

Equity Market Sensitivity

In the Wealth Management and Investment Management business segments, certain fee-based revenue streams are driven by the value of clients' equity holdings. The overall level of revenues for these streams also depends on multiple additional factors that include, but are not limited to, the level and duration of the equity market increase or decline, price volatility, the geographic and industry mix of client assets, the rate and magnitude of client investments and redemptions, and the impact of such market increase or decline and price volatility on client behavior. Therefore, overall revenues do not correlate completely with changes in the equity markets.

Credit Risk

Credit risk refers to the risk of loss arising when a borrower, counterparty or issuer does not meet its financial obligations to us. We primarily incur credit risk to institutions and individuals through our Institutional Securities and Wealth Management business segments.

We may incur credit risk in our Institutional Securities business segment through a variety of activities, including, but not limited to, the following:

- extending credit to clients through lending commitments;
- entering into swap or other derivative contracts under which counterparties may have obligations to make payments to us;

- providing short- or long-term funding that is secured by physical or financial collateral whose value may at times be insufficient to fully cover the repayment amount;
- posting margin and/or collateral to clearinghouses, clearing agencies, exchanges, banks, securities firms and other financial counterparties;
- placing funds on deposit at other financial institutions to support our clearing and settlement obligations; and
- investing or trading in securities and loan pools, whereby the value of these assets may fluctuate based on realized or expected defaults on the underlying obligations or loans.

We incur credit risk in our Wealth Management business segment, primarily through lending to individuals and entities, including, but not limited to, the following:

- margin loans collateralized by securities;
- securities-based lending and other forms of secured loans, including tailored lending, to high net worth clients; and
- single-family residential mortgage loans in conforming, non-conforming or HELOC form, primarily to existing Wealth Management clients.

Monitoring and Control

In order to help protect us from losses, the Credit Risk Management Department ("CRM") establishes Firm-wide practices to evaluate, monitor and control credit risk at the transaction, obligor and portfolio levels. CRM approves extensions of credit, evaluates the creditworthiness of the counterparties and borrowers on a regular basis, and helps ensure that credit exposure is actively monitored and managed. The evaluation of counterparties and borrowers includes an assessment of the probability that an obligor will default on its financial obligations and any losses that may occur when an obligor defaults. In addition, credit risk exposure is actively managed by credit professionals and committees within CRM and through various risk committees, whose membership includes individuals from CRM. A comprehensive and global Credit Limits Framework is utilized to manage credit risk levels across the Firm. The Credit Limits Framework is calibrated within our risk tolerance and includes single-name limits and portfolio concentration limits by country, industry and product type.

CRM helps ensure timely and transparent communication of material credit risks, compliance with established limits and escalation of risk concentrations to appropriate senior management. CRM also works closely with the Market Risk Department and applicable business units to monitor risk exposures and to perform stress tests to identify, analyze and control credit risk concentrations arising from lending and trading activities. The stress tests shock market factors (*e.g.*, interest rates, commodity prices, credit spreads), risk parameters (*e.g.*, default probabilities and loss given default), recovery rates and expected losses in order to assess the impact of stresses on exposures, profit and loss, and our capital position. Stress tests are conducted in accordance with our established policies and procedures.

Credit Evaluation

The evaluation of corporate and institutional counterparties and borrowers includes assigning obligor credit ratings, which reflect an assessment of an obligor's probability of default and loss given default. Credit evaluations typically involve the assessment of financial statements; leverage; liquidity; capital strength; asset composition and quality; market capitalization; access to capital markets; adequacy of collateral, if applicable; and in the case of certain loans, cash flow projections and debt service requirements. CRM also evaluates strategy, market position, industry dynamics, management and other factors that could affect the obligor's risk profile. Additionally, CRM evaluates the relative position of our exposure in the borrower's capital structure and relative recovery prospects, as well as other structural elements of the particular transaction.

The evaluation of consumer borrowers is tailored to the specific type of lending. Margin and securities-based loans are evaluated based on factors that include, but are not limited to, the amount of the loan, the degree of leverage and the quality, diversification, price volatility and liquidity of the collateral. The underwriting of residential real estate loans includes, but is not limited to, review of the obligor's income, net worth, liquidity, collateral, loan-to-value ratio and credit bureau information. Subsequent credit monitoring for individual loans is performed at the portfolio level, and collateral values are monitored on an ongoing basis.

Credit risk metrics assigned to our borrowers during the evaluation process are incorporated into CRM maintenance of the allowance for loan losses for loans held for investment. Such allowance serves as a reserve for probable inherent losses, as well as probable losses related to loans identified as impaired. For more information on the allowance for loan losses, see Notes 2 and 7 to the financial statements.

Risk Mitigation

We may seek to mitigate credit risk from our lending and trading activities in multiple ways, including collateral provisions, guarantees and hedges. At the transaction level, we seek to mitigate risk through management of key risk elements such as size, tenor, financial covenants, seniority and collateral. We actively hedge our lending and derivatives exposure. Hedging activities consist of the purchase or sale of positions in related securities and financial instruments, including a variety of derivative products (*e.g.*, futures, forwards, swaps, and options). Additionally, we may sell, assign or syndicate loans and lending commitments to other financial institutions in the primary and secondary loan markets.

In connection with our derivatives trading activities, we generally enter into master netting agreements and collateral arrangements with counterparties. These agreements provide us with the ability to demand collateral, as well as to liquidate collateral and offset receivables and payables covered under the same master agreement in the event of a counterparty default. A collateral management group monitors collateral levels against requirements and oversees the administration of the collateral function. See Note 6 to the financial statements for additional information about our collateralized transactions.

Loans and Lending Commitments

We provide loans and lending commitments to a variety of customers, from large corporate and institutional clients to high net worth individuals. In addition, we purchase loans in the secondary market. In the balance sheets, these loans and lending commitments are carried as held for investment, which are recorded at amortized cost; as held for sale, which are recorded at the lower of cost or fair value; or at fair value with changes in fair value recorded in earnings. Loans held for investment and loans held for sale are classified in Loans, and loans held at fair value are classified in Trading assets in the balance sheets. See Notes 3, 7 and 12 to the financial statements for further information.

Loans and Lending Commitments

	At December 31, 2018			
$ in millions	IS	WM	IM[1]	Total
Corporate	**$ 20,020**	**$ 16,884**	**$ 5**	**$ 36,909**
Consumer	**—**	**27,868**	**—**	**27,868**
Residential real estate	**—**	**27,466**	**—**	**27,466**
Wholesale real estate	**7,810**	**—**	**—**	**7,810**
Loans held for investment, gross of allowance	**27,830**	**72,218**	**5**	**100,053**
Allowance for loan losses	**(193)**	**(45)**	**—**	**(238)**
Loans held for investment, net of allowance	**27,637**	**72,173**	**5**	**99,815**
Corporate	**13,886**	**—**	**—**	**13,886**
Residential real estate	**1**	**21**	**—**	**22**
Wholesale real estate	**1,856**	**—**	**—**	**1,856**
Loans held for sale	**15,743**	**21**	**—**	**15,764**
Corporate	**9,150**	**—**	**21**	**9,171**
Residential real estate	**1,153**	**—**	**—**	**1,153**
Wholesale real estate	**601**	**—**	**—**	**601**
Loans held at fair value	**10,904**	**—**	**21**	**10,925**
Total loans	**54,284**	**72,194**	**26**	**126,504**
Lending commitments[2, 3]	**95,065**	**10,663**	**—**	**105,728**
Total loans and lending commitments[2, 3]	**$ 149,349**	**$ 82,857**	**$ 26**	**$ 232,232**

	At December 31, 2017			
$ in millions	IS	WM	IM[1]	Total
Corporate	$ 15,332	$ 14,417	$ 5	$ 29,754
Consumer	—	26,808	—	26,808
Residential real estate	—	26,635	—	26,635
Wholesale real estate	9,980	—	—	9,980
Loans held for investment, gross of allowance	25,312	67,860	5	93,177
Allowance for loan losses	(182)	(42)	—	(224)
Loans held for investment, net of allowance	25,130	67,818	5	92,953
Corporate	9,456	—	—	9,456
Residential real estate	1	34	—	35
Wholesale real estate	1,682	—	—	1,682
Loans held for sale	11,139	34	—	11,173
Corporate	8,336	—	22	8,358
Residential real estate	799	—	—	799
Wholesale real estate	1,579	—	—	1,579
Loans held at fair value	10,714	—	22	10,736
Total loans	46,983	67,852	27	114,862
Lending commitments[2, 3]	92,588	9,481	—	102,069
Total loans and lending commitments[2, 3]	$ 139,571	$ 77,333	$ 27	$ 216,931

1. Investment Management business segment loans are entered into in conjunction with certain investment advisory activities.
2. Lending commitments represent the notional amount of legally binding obligations to provide funding to clients for lending transactions. Since commitments associated with these business activities may expire unused or may not be utilized to full capacity, they do not necessarily reflect the actual future cash funding requirements.
3. For syndications led by us, any lending commitments accepted by the borrower but not yet closed are net of amounts syndicated. For syndications that we participate in and do not lead, any lending commitments accepted by the borrower but not yet closed include only the amount that we expect will be allocated from the lead syndicate bank. Due to the nature of our obligations under the commitments, these amounts include certain commitments participated to third parties.

In 2018, total loans and lending commitments increased by approximately $15 billion primarily due to increases in corporate collateralized and event-driven loans and lending commitments within the Institutional Securities business segment and growth in securities-based lending within the Wealth Management business segment.

Credit exposure arising from our loans and lending commitments is measured in accordance with our internal risk management standards. Risk factors considered in determining the aggregate allowance for loan and commitment losses include the borrower's financial strength, industry, facility structure, loan-to-value ratio, debt service ratio, collateral and covenants. Qualitative and environmental factors such as economic and business conditions, nature and volume of the portfolio and lending terms, and volume and severity of past due loans may also be considered.

Allowance for Loans and Lending Commitments Held for Investment

$ in millions	**At December 31, 2018**	At December 31, 2017
Loans	**$ 238**	$ 224
Lending commitments	**203**	198
Total allowance for loans and lending commitments	**$ 441**	$ 422

The aggregate allowance for loans and lending commitment losses increased during 2018, primarily due to overall portfolio changes and qualitative and environmental factors impacting the inherent allowance within the Institutional Securities business segment. See Note 7 to the financial statements for further information.

Status of Loans Held for Investment

	At December 31, 2018		At December 31, 2017	
	IS	WM	IS	WM
Current	**99.8%**	**99.9%**	99.5%	99.9%
Nonaccrual[1]	**0.2%**	**0.1%**	0.5%	0.1%

1. These loans are on nonaccrual status because the loans were past due for a period of 90 days or more or payment of principal or interest was in doubt.

Institutional Securities

In connection with certain Institutional Securities business segment activities, we provide loans and lending commitments to a diverse group of corporate and other institutional clients. We also purchase a variety of loans in the secondary market. Our loans and lending commitments may have varying terms; may be senior or subordinated; may be secured or unsecured; are generally contingent upon representations, warranties and contractual conditions applicable to the borrower; and may be syndicated, traded or hedged by us.

We also participate in securitization activities, whereby we extend short- or long-term collateralized lines of credit and term loans with various types of collateral, including residential real estate, commercial real estate, corporate and financial assets. These collateralized loans and lending commitments generally provide for over-collateralization. Credit risk with respect to these loans and lending commitments arises from the failure of a borrower to perform according to the terms of the loan agreement or a decline in the underlying collateral value. The Firm monitors collateral levels against the requirements of lending agreements. See Note 13 to the financial statements for information about our securitization activities.

Institutional Securities Loans and Lending Commitments[1]

	At December 31, 2018				
	Years to Maturity				
$ in millions	Less than 1	1-3	3-5	Over 5	Total
Loans					
AA	**$ 7**	**$ 430**	**$ —**	**$ 19**	**$ 456**
A	**565**	**1,580**	**858**	**267**	**3,270**
BBB	**3,775**	**4,697**	**4,251**	**495**	**13,218**
NIG	**7,151**	**12,882**	**9,313**	**5,889**	**35,235**
Unrated[2]	**88**	**95**	**160**	**1,762**	**2,105**
Total loans	**11,586**	**19,684**	**14,582**	**8,432**	**54,284**
Lending commitments					
AAA	**90**	**75**	**—**	**—**	**165**
AA	**2,491**	**1,177**	**2,863**	**—**	**6,531**
A	**2,892**	**6,006**	**9,895**	**502**	**19,295**
BBB	**2,993**	**11,825**	**19,461**	**638**	**34,917**
NIG	**1,681**	**10,604**	**16,075**	**5,751**	**34,111**
Unrated[2]	**8**	**—**	**38**	**—**	**46**
Total lending commitments	**10,155**	**29,687**	**48,332**	**6,891**	**95,065**
Total exposure	**$ 21,741**	**$ 49,371**	**$ 62,914**	**$ 15,323**	**$ 149,349**

$ in millions	At December 31, 2017				
	Years to Maturity				
	Less than 1	1-3	3-5	Over 5	Total
Loans					
AA	$ 14	$ 503	$ 30	$ 5	$ 552
A	1,608	1,710	1,235	693	5,246
BBB	2,791	6,558	3,752	646	13,747
NIG	4,760	12,311	4,480	3,245	24,796
Unrated[2]	243	291	621	1,487	2,642
Total loans	9,416	21,373	10,118	6,076	46,983
Lending commitments					
AAA	—	165	—	—	165
AA	3,745	1,108	3,002	—	7,855
A	3,769	5,533	11,774	197	21,273
BBB	3,987	12,345	16,818	1,095	34,245
NIG	4,159	9,776	12,279	2,698	28,912
Unrated[2]	9	40	42	47	138
Total lending commitments	15,669	28,967	43,915	4,037	92,588
Total exposure	$ 25,085	$ 50,340	$ 54,033	$ 10,113	$ 139,571

NIG–Non-investment grade

1. Obligor credit ratings are internally determined by CRM.
2. Unrated loans and lending commitments are primarily trading positions that are measured at fair value and risk managed as a component of market risk. For a further discussion of our market risk, see "Quantitative and Qualitative Disclosures about Risk—Risk Management—Market Risk" herein.

Institutional Securities Loans and Lending Commitments by Industry

$ in millions	At December 31, 2018	At December 31, 2017[1]
Industry		
Financials	**$ 32,655**	$ 22,112
Real estate	**24,133**	28,426
Industrials	**13,701**	11,090
Communications services	**11,244**	9,126
Healthcare	**10,158**	9,956
Information technology	**9,896**	10,361
Utilities	**9,856**	9,592
Energy	**9,847**	10,233
Consumer discretionary	**8,314**	8,102
Consumer staples	**7,921**	8,315
Materials	**5,969**	5,069
Insurance	**3,744**	4,739
Other	**1,911**	2,450
Total	**$ 149,349**	$ 139,571

1. Prior period amounts have been revised to conform to reclassifications in the Global Industry Classification Standard structure.

Event-Driven Loans and Lending Commitments

$ in millions	At December 31, 2018				
	Years to Maturity				
	Less than 1	1-3	3-5	Over 5	Total
Loans	**$ 2,582**	**$ 287**	**$ 656**	**$ 1,618**	**$ 5,143**
Lending commitments	**1,506**	**2,456**	**2,877**	**3,658**	**10,497**
Total loans and lending commitments	**$ 4,088**	**$ 2,743**	**$ 3,533**	**$ 5,276**	**$ 15,640**

$ in millions	At December 31, 2017				
	Years to Maturity				
	Less than 1	1-3	3-5	Over 5	Total
Loans	$ 1,458	$ 1,058	$ 639	$ 2,012	$ 5,167
Lending commitments	1,272	3,206	2,091	1,874	8,443
Total loans and lending commitments	$ 2,730	$ 4,264	$ 2,730	$ 3,886	$ 13,610

Event-driven loans and lending commitments, which comprise a portion of corporate loans and lending commitments within the Institutional Securities business segment, are associated with a particular event or transaction, such as to support client merger, acquisition, recapitalization or project finance activities. Event-driven loans and lending commitments typically consist of revolving lines of credit, term loans and bridge loans. The increase in event-driven lending commitments in 2018 is primarily due to an increase in held-for-sale commitments driven by client M&A transactions.

Wealth Management

The principal Wealth Management business segment lending activities include securities-based lending and residential real estate loans.

Securities-based lending provided to our retail clients is primarily conducted through our Liquidity Access Line ("LAL") platform. The LAL platform allows the client to borrow money against the value of qualifying securities, generally for any purpose other than purchasing securities. We establish approved credit lines against qualifying securities and monitor limits daily and, pursuant to such guidelines, require customers to deposit additional collateral, or reduce debt positions, when necessary. These credit lines are primarily uncommitted loan facilities, as we reserve the right to not make any advances or may terminate these credit lines at any time. Factors considered in the review of these loans include, but are not limited to, the loan amount, the client's credit profile, the degree of leverage, collateral diversification, price volatility and liquidity of the collateral.

Residential real estate loans consist of first and second lien mortgages, including HELOCs. Our underwriting policy is designed to ensure that all borrowers pass an assessment of capacity and willingness to pay, which includes an analysis utilizing industry standard credit scoring models (*e.g.*, FICO scores), debt ratios and assets of the borrower. Loan-to-value ratios are determined based on independent third-party property appraisals and valuations, and security lien positions are established through title and ownership reports. The vast majority of mortgage and HELOC loans are held for investment in the Wealth Management business segment's loan portfolio.

Wealth Management Loans and Lending Commitments

	At December 31, 2018				
	Contractual Years to Maturity				
$ in millions	Less than 1	1-3	3-5	Over 5	Total
Securities-based lending and other loans	**$ 38,144**	**$ 3,573**	**$ 2,004**	**$ 1,006**	**$ 44,727**
Residential real estate loans	**—**	**30**	**1**	**27,436**	**27,467**
Total loans	**$ 38,144**	**$ 3,603**	**$ 2,005**	**$ 28,442**	**$ 72,194**
Lending commitments	**9,197**	**1,151**	**42**	**273**	**10,663**
Total loans and lending commitments	**$ 47,341**	**$ 4,754**	**$ 2,047**	**$ 28,715**	**$ 82,857**
Securities-based lending—LAL platform loans					**$ 33,247**

	At December 31, 2017				
	Contractual Years to Maturity				
$ in millions	Less than 1	1-3	3-5	Over 5	Total
Securities-based lending and other loans	$ 34,389	$ 3,687	$ 1,899	$ 1,231	$ 41,206
Residential real estate loans	—	24	15	26,607	26,646
Total loans	$ 34,389	$ 3,711	$ 1,914	$ 27,838	$ 67,852
Lending commitments	7,253	1,827	120	281	9,481
Total loans and lending commitments	$ 41,642	$ 5,538	$ 2,034	$ 28,119	$ 77,333
Securities-based lending—LAL platform loans					$ 32,230

In 2018, Loans and Lending commitments associated with the Wealth Management business segment increased by approximately 7%, primarily due to growth in securities-based lending and other loans.

Customer and Other Receivables

Margin Loans

	At December 31, 2018		
$ in millions	IS	WM	Total
Customer receivables representing margin loans	**$ 14,842**	**$ 11,383**	**$ 26,225**

	At December 31, 2017		
$ in millions	IS	WM	Total
Customer receivables representing margin loans	$ 19,977	$ 12,135	$ 32,112

The Institutional Securities and Wealth Management business segments provide margin lending arrangements which allow customers to borrow against the value of qualifying securities. Margin lending activities generally have minimal credit risk due to the value of collateral held and their short-term nature. Amounts may fluctuate from period to period as overall client balances change as a result of market levels, client positioning and leverage.

Employee Loans

$ in millions	**At December 31, 2018**	At December 31, 2017
Balance	**$ 3,415**	$ 4,185
Allowance for loan losses	**(63)**	(77)
Balance, net	**$ 3,352**	$ 4,108
Repayment term range, in years	**1 to 20**	1 to 20

In 2018, the balance of employee loans decreased as a result of the repayment of existing loans and a decline in new note issuances. Employee loans are generally granted to retain and recruit certain Wealth Management representatives, are full recourse and generally require periodic repayments. We establish an allowance for loan amounts to terminated employees that we do not consider recoverable, which is recorded in Compensation and benefits expense.

Derivatives

Counterparty Credit Rating and Remaining Contractual Maturity of OTC Derivative Assets at Fair Value

	Credit Rating[1]					
$ in millions	AAA	AA	A	BBB	NIG	Total
At December 31, 2018						
<1 year	**$ 878**	**$ 7,430**	**$ 38,718**	**$ 15,009**	**$ 7,183**	**$ 69,218**
1-3 years	**664**	**2,362**	**22,239**	**10,255**	**7,097**	**42,617**
3-5 years	**621**	**2,096**	**11,673**	**6,014**	**2,751**	**23,155**
Over 5 years	**3,535**	**9,725**	**67,166**	**36,087**	**11,112**	**127,625**
Total, gross	**$ 5,698**	**$ 21,613**	**$ 139,796**	**$ 67,365**	**$ 28,143**	**$ 262,615**
Counterparty netting	**(2,325)**	**(13,771)**	**(113,045)**	**(49,658)**	**(16,681)**	**(195,480)**
Cash and securities collateral	**(3,214)**	**(5,766)**	**(21,931)**	**(12,702)**	**(8,269)**	**(51,882)**
Total, net	**$ 159**	**$ 2,076**	**$ 4,820**	**$ 5,005**	**$ 3,193**	**$ 15,253**

	Credit Rating[1, 2]					
$ in millions	AAA	AA	A	BBB	NIG	Total
At December 31, 2017						
<1 year	$ 356	$ 5,302	$ 36,001	$ 11,577	$ 5,904	$ 59,140
1-3 years	558	4,118	23,137	8,887	4,827	41,527
3-5 years	702	3,183	15,577	5,489	4,879	29,830
Over 5 years	5,470	11,667	78,779	37,286	12,079	145,281
Total, gross	$ 7,086	$ 24,270	$ 153,494	$ 63,239	$ 27,689	$ 275,778
Counterparty netting	(3,018)	(15,261)	(125,378)	(45,421)	(15,828)	(204,906)
Cash and securities collateral	(3,188)	(6,785)	(23,257)	(12,844)	(9,123)	(55,197)
Total, net	$ 880	$ 2,224	$ 4,859	$ 4,974	$ 2,738	$ 15,675

1. Obligor credit ratings are determined internally by CRM.
2. Prior period amounts have been revised to conform to the current presentation.

OTC Derivative Products at Fair Value, Net of Collateral, by Industry

$ in millions	At December 31, 2018	At December 31, 2017[1]
Industry		
Financials	**$ 4,480**	$ 3,330
Utilities	**4,324**	4,382
Industrials	**1,335**	1,124
Healthcare	**787**	882
Regional governments	**779**	1,005
Information technology	**695**	573
Not-for-profit organizations	**583**	703
Sovereign governments	**385**	1,084
Communication services	**373**	294
Real estate	**283**	374
Materials	**275**	329
Insurance	**235**	206
Consumer staples	**216**	161
Energy	**199**	646
Consumer discretionary	**188**	357
Other	**116**	225
Total	**$ 15,253**	$ 15,675

1. Prior period amounts have been revised to conform to reclassifications in the Global Industry Classification Standard structure.

We incur credit risk as a dealer in OTC derivatives. Credit risk with respect to derivative instruments arises from the possibility that a counterparty may fail to perform according to the terms of the contract. For a description of our risk mitigation strategies, see "Credit Risk—Risk Mitigation" herein.

Credit Derivatives

A credit derivative is a contract between a seller and buyer of protection against the risk of a credit event occurring on one or more debt obligations issued by a specified reference entity. The buyer typically pays a periodic premium over the life of the contract and is protected for the period. If a credit event occurs, the seller is required to make payment to the beneficiary based on the terms of the credit derivative contract. Credit events, as defined in the contract, may be one or more of the following defined events: bankruptcy, dissolution or insolvency of the referenced entity, failure to pay, obligation acceleration, repudiation, payment moratorium and restructurings.

We trade in a variety of credit derivatives and may either purchase or write protection on a single name or portfolio of referenced entities. In transactions referencing a portfolio of entities or securities, protection may be limited to a tranche of exposure or a single name within the portfolio. We are an active market maker in the credit derivatives markets. As a market maker, we work to earn a bid-offer spread on client flow business and manage any residual credit or correlation risk on a portfolio basis. Further, we use credit derivatives to manage our exposure to residential and commercial mortgage loans and corporate lending exposures. The effectiveness of our CDS protection as a hedge of our exposures may vary depending upon a number of factors, including the contractual terms of the CDS.

We actively monitor our counterparty credit risk related to credit derivatives. A majority of our counterparties are composed of banks, broker-dealers, insurance and other financial institutions. Contracts with these counterparties may include provisions related to counterparty rating downgrades, which may result in the counterparty posting additional collateral to us. As with all derivative contracts, we consider counterparty credit risk in the valuation of our positions and recognize CVAs as appropriate within Trading revenues in the income statements.

For additional credit exposure information on our credit derivative portfolio, see Note 4 to the financial statements and "Single Name and Index Credit Derivatives Included in Net Inventory" herein.

Country Risk

Country risk exposure is the risk that events in, or that affect, a foreign country (any country other than the U.S.) might adversely affect us. We actively manage country risk exposure through a comprehensive risk management framework that combines credit and market fundamentals and allows us to effectively identify, monitor and limit country risk. Country risk exposure before and after hedging is monitored and managed.

Our obligor credit evaluation process may also identify indirect exposures, whereby an obligor has vulnerability or exposure to another country or jurisdiction. Examples of indirect exposures include mutual funds that invest in a single country, offshore companies whose assets reside in another country to that of the offshore jurisdiction and finance company subsidiaries of corporations. Indirect exposures identified through the credit evaluation process may result in a reclassification of country risk.

We conduct periodic stress testing that seeks to measure the impact on our credit and market exposures of shocks stemming from negative economic or political scenarios. When deemed appropriate by our risk managers, the stress test scenarios include possible contagion effects and second order risks. This analysis, and results of the stress tests, may result in the amendment of limits or exposure mitigation.

In addition to our country risk exposure, we disclose our cross-border risk exposure in "Financial Statements and Supplementary Data—Financial Data Supplement (Unaudited)." It is based on the FFIEC regulatory guidelines for reporting cross-border information and represents the amounts that we may not be able to obtain from a foreign country due to country-specific events, including unfavorable economic and political conditions, economic and social instability, and changes in government policies.

There can be substantial differences between our country risk exposure and cross-border risk exposure. For instance, unlike the cross-border risk exposure, our country risk exposure includes the effect of certain risk mitigants. In addition, the basis for determining the domicile of the country risk exposure is different from the basis for determining the cross-border risk exposure. Cross-border risk exposure is reported based on the country of jurisdiction for the obligor or guarantor. For country risk exposure, we consider factors in addition to that of country of jurisdiction, including physical location of operations or assets, location and source of cash flows or revenues and location of collateral (if applicable) in order to determine the basis for country risk exposure. Furthermore, cross-border risk exposure incorporates CDS only where protection is purchased, while country risk exposure incorporates CDS where protection is purchased or sold.

Our sovereign exposures consist of financial contracts and obligations entered into with sovereign and local governments. Our non-sovereign exposures consist of financial contracts and obligations entered into primarily with corporations and financial institutions. Index credit derivatives are included in the following country risk exposure table. Index exposures are allocated to the underlying reference entities in proportion to the notional weighting of the country of each reference entity in the index, adjusted for any fair value receivable or payable for that reference entity. Where credit risk crosses multiple jurisdictions, for example, a CDS purchased from a counterparty in a specific country that references bonds issued by an entity in a different country, the fair value of the CDS is reflected in the Net Counterparty Exposure row based on the country of the CDS counterparty. Further, the notional amount of the CDS adjusted for the fair value of the receivable or payable is reflected in the Net Inventory row based on the country of the underlying reference entity.

Top 10 Non-U.S. Country Exposures at December 31, 2018

United Kingdom

$ in millions	Sovereigns	Non-sovereigns	Total
Net inventory[1]	$ (827)	$ 1,121	$ 294
Net counterparty exposure[2]	13	10,259	10,272
Loans	—	2,046	2,046
Lending commitments	—	4,524	4,524
Exposure before hedges	(814)	17,950	17,136
Hedges[3]	(353)	(1,381)	(1,734)
Net exposure	$ (1,167)	$ 16,569	$ 15,402

Japan

$ in millions	Sovereigns	Non-sovereigns	Total
Net inventory[1]	$ 7,051	$ 535	$ 7,586
Net counterparty exposure[2]	37	3,059	3,096
Loans	—	319	319
Lending commitments	—	—	—
Exposure before hedges	7,088	3,913	11,001
Hedges[3]	(118)	(115)	(233)
Net exposure	$ 6,970	$ 3,798	$ 10,768

Germany

$ in millions	Sovereigns	Non-sovereigns	Total
Net inventory[1]	$ 1,843	$ 239	$ 2,082
Net counterparty exposure[2]	133	2,013	2,146
Loans	—	961	961
Lending commitments	—	3,174	3,174
Exposure before hedges	1,976	6,387	8,363
Hedges[3]	(268)	(1,072)	(1,340)
Net exposure	$ 1,708	$ 5,315	$ 7,023

Spain

$ in millions	Sovereigns	Non-sovereigns	Total
Net inventory[1]	$ (533)	$ 73	$ (460)
Net counterparty exposure[2]	—	201	201
Loans	—	4,732	4,732
Lending commitments	—	1,747	1,747
Exposure before hedges	(533)	6,753	6,220
Hedges[3]	—	(199)	(199)
Net exposure	$ (533)	$ 6,554	$ 6,021

Brazil

$ in millions	Sovereigns	Non-sovereigns	Total
Net inventory[1]	$ 4,734	$ 51	$ 4,785
Net counterparty exposure[2]	—	211	211
Loans	—	23	23
Lending commitments	—	279	279
Exposure before hedges	4,734	564	5,298
Hedges[3]	(11)	(18)	(29)
Net exposure	$ 4,723	$ 546	$ 5,269

France

$ in millions	Sovereigns	Non-sovereigns	Total
Net inventory[1]	$ 239	$ (68)	$ 171
Net counterparty exposure[2]	1	2,113	2,114
Loans	—	314	314
Lending commitments	—	2,092	2,092
Exposure before hedges	240	4,451	4,691
Hedges[3]	(56)	(631)	(687)
Net exposure	$ 184	$ 3,820	$ 4,004

China

$ in millions	Sovereigns	Non-sovereigns	Total
Net inventory[1]	$ 156	$ 1,010	$ 1,166
Net counterparty exposure[2]	258	149	407
Loans	—	1,427	1,427
Lending commitments	—	619	619
Exposure before hedges	414	3,205	3,619
Hedges[3]	(40)	(10)	(50)
Net exposure	$ 374	$ 3,195	$ 3,569

India

$ in millions	Sovereigns	Non-sovereigns	Total
Net inventory[1]	$ 1,712	$ 617	$ 2,329
Net counterparty exposure[2]	—	637	637
Loans	—	—	—
Lending commitments	—	—	—
Exposure before hedges	1,712	1,254	2,966
Hedges[3]	—	—	—
Net exposure	$ 1,712	$ 1,254	$ 2,966

Netherlands

$ in millions	Sovereigns	Non-sovereigns	Total
Net inventory[1]	$ (112)	$ 592	$ 480
Net counterparty exposure[2]	—	758	758
Loans	—	921	921
Lending commitments	—	1,081	1,081
Exposure before hedges	(112)	3,352	3,240
Hedges[3]	(32)	(269)	(301)
Net exposure	$ (144)	$ 3,083	$ 2,939

Canada

$ in millions	Sovereigns	Non-sovereigns	Total
Net inventory[1]	$ (782)	$ 405	$ (377)
Net counterparty exposure[2]	59	1,796	1,855
Loans	—	70	70
Lending commitments	—	1,519	1,519
Exposure before hedges	(723)	3,790	3,067
Hedges[3]	—	(206)	(206)
Net exposure	$ (723)	$ 3,584	$ 2,861

1. Net inventory represents exposure to both long and short single-name and index positions (*i.e.*, bonds and equities at fair value and CDS based on a notional amount assuming zero recovery adjusted for the fair value of any receivable or payable).
2. Net counterparty exposure (*i.e.*, repurchase transactions, securities lending and OTC derivatives) takes into consideration legally enforceable master netting agreements and collateral. Net counterparty exposure is net of the benefit of collateral received. For more information, see "Additional Information—Top 10 Non-U.S. Country Exposures" herein.
3. Amounts represent CDS hedges (purchased and sold) on net counterparty exposure and lending executed by trading desks responsible for hedging counterparty and lending credit risk exposures. Amounts are based on the CDS notional amount assuming zero recovery adjusted for any fair value receivable or payable. For a further description of the contractual terms for purchased credit protection and whether they may limit the effectiveness of our hedges, see "Derivatives" herein.

Additional Information—Top 10 Non-U.S. Country Exposures

Single-Name and Index Credit Derivatives Included in Net Inventory

$ in millions	At December 31, 2018
Gross purchased protection	$ (70,035)
Gross written protection	68,543
Net exposure	$ (1,492)

Benefit of Collateral Received against Net Counterparty Exposure

$ in millions		At December 31, 2018
Counterparty credit exposure	**Collateral[1]**	
Germany	Germany and France	$ 8,937
United Kingdom	U.K., U.S. and Spain	8,661
Other	Japan, France and U.S.	14,022

1. Collateral primarily consists of cash and government obligations.

Country Risk Exposures Related to the U.K.

At December 31, 2018, our country risk exposures in the U.K. included net exposures of $15,402 million as shown in the Top 10 Country Exposures table, and overnight deposits of $4,590 million. The $16,569 million of exposures to non-sovereigns were diversified across both names and sectors. Of these exposures, $5,053 million were to U.K.-focused counterparties that generate more than one-third of their revenues in the U.K., $3,347 million were to geographically diversified counterparties, and $7,092 million were to exchanges and clearinghouses.

Operational Risk

Operational risk refers to the risk of loss, or of damage to our reputation, resulting from inadequate or failed processes or systems, from human factors or from external events (*e.g.*, fraud, theft, legal and compliance risks, cyber attacks or damage to physical assets). We may incur operational risk across the full scope of our business activities, including revenue-generating activities (*e.g.*, sales and trading) and support and control groups (*e.g.*, information technology and trade processing).

We have established an operational risk framework to identify, measure, monitor and control risk across the Firm. Effective operational risk management is essential to reducing the impact of operational risk incidents and mitigating legal, regulatory and reputational risks. The framework is continually evolving to account for changes in the Firm and to respond to the changing regulatory and business environment.

We have implemented operational risk data and assessment systems to monitor and analyze internal and external operational risk events, to assess business environment and internal control factors, and to perform scenario analysis. The collected data elements are incorporated in the operational risk capital model. The model encompasses both quantitative and qualitative elements. Internal loss data and scenario analysis results are direct inputs to the capital model, while external operational incidents, business environment and internal control factors are evaluated as part of the scenario analysis process.

In addition, we employ a variety of risk processes and mitigants to manage our operational risk exposures. These include a governance framework, a comprehensive risk management program and insurance. Operational risks and associated risk exposures are assessed relative to the risk tolerance reviewed and confirmed by the Board and are prioritized accordingly.

The breadth and range of operational risk are such that the types of mitigating activities are wide-ranging. Examples of activities include: continuous enhancement of defenses against cyber attacks; use of legal agreements and contracts to transfer and/or limit operational risk exposures; due diligence; implementation of enhanced policies and procedures; technology change management controls; exception management processing controls; and segregation of duties.

Primary responsibility for the management of operational risk is with the business segments, the control groups and the business managers therein. The business managers maintain processes and controls designed to identify, assess, manage, mitigate and report operational risk. Each of the business segments has a designated operational risk coordinator. The operational risk coordinator regularly reviews operational risk issues and reports to our senior management within each business. Each control group also has a designated operational risk coordinator and a forum for discussing operational risk matters with our senior management. Oversight of operational risk is provided by the Operational Risk Oversight Committee, legal entity risk committees, regional risk committees and senior management. In the event of a merger; joint venture; divestiture; reorganization; or creation of a new legal entity, a new product, or a business activity, operational risks are considered, and any necessary changes in processes or controls are implemented.

The Operational Risk Department provides independent oversight of operational risk and assesses, measures and monitors operational risk against tolerance. The Operational Risk Department works with the divisions and control groups to help ensure a transparent, consistent and comprehensive framework for managing operational risk within each area and across the Firm.

The Operational Risk Department scope includes oversight of technology risk, cybersecurity risk, information security risk, the fraud risk management and prevention program, and third-party risk management (supplier and affiliate risk oversight and assessment).

Cybersecurity

Our cybersecurity and information security policies, procedures, and technologies are designed to protect our, client and employee data against unauthorized disclosure, modification or misuse and are also designed to address regulatory requirements. These policies and procedures cover a broad range of areas, including: identification of internal and external threats, access control, data security, protective controls, detection of malicious or unauthorized activity, incident response and recovery planning.

Business Continuity Management and Disaster Recovery

We maintain global programs for business continuity management and technology disaster recovery that facilitate activities designed to mitigate risk to the Firm during a business continuity event. A business continuity event is an interruption with potential impact to normal business activity of the Firm's people, operations, technology, suppliers and/or facilities. The business continuity management program's core functions are business continuity planning and crisis management. As part of business continuity planning, business units within the Firm maintain business continuity plans, identifying processes and strategies to continue business-critical processes during a business continuity event. Crisis management is the process of identifying and managing the Firm's operations during business continuity events. Disaster recovery plans supporting business continuity are in place for critical facilities and resources across the Firm.

Third Party Risk Management

In connection with our ongoing operations, we utilize the services of third party suppliers, which we anticipate will continue and may increase in the future. These services include, for example, outsourced processing and support functions and other professional services. Our risk-based approach to managing exposure to these services includes the performance of due diligence, implementation of service level and other contractual agreements, consideration of operational risks and ongoing monitoring of third-party suppliers' performance. We maintain and continue to enhance our third-party risk management program which includes appropriate governance, policies, procedures and technology that supports alignment with our risk tolerance and is designed to meet regulatory requirements. The third-party risk management program includes the adoption of appropriate risk management controls and practices through the supplier management life cycle, including, but not limited to, assessment of information security, service failure, financial stability, disaster recoverability, reputational risk, contractual risk and safeguards against corruption.

Model Risk

Model risk refers to the potential for adverse consequences from decisions based on incorrect or misused model outputs. Model risk can lead to financial loss, poor business and strategic decision making or damage to a Firm's reputation. The risk inherent in a model is a function of the materiality, complexity and uncertainty around inputs and assumptions.

Model risk is generated from the use of models impacting financial statements, regulatory filings, capital adequacy assessments and the formulation of strategy.

Sound model risk management is an integral part of our Risk Management Framework. The Model Risk Management Department ("MRM") is a distinct department in Risk Management responsible for the oversight of model risk.

MRM establishes a model risk tolerance in line with our risk appetite. The tolerance is based on an assessment of the materiality of the risk of financial loss or reputational damage due to errors in design, implementation and/or inappropriate use of models. The tolerance is monitored through model-specific and aggregate business-level assessments, which are based upon qualitative and quantitative factors.

A guiding principle for managing model risk is the "effective challenge" of models. The effective challenge of models is represented by the critical analysis by objective, informed parties who can identify model limitations and assumptions and drive appropriate changes. MRM provides effective challenge of models, independently validates and approves models for use, annually recertifies models, identifies and tracks remediation plans for model limitations and reports on model risk metrics. The department also oversees the development of controls to support a complete and accurate Firm-wide model inventory. The head of MRM reports on our model risk relative to risk tolerance and presents these reports to the Model Oversight Committee, the FRC and the Chief Risk Officer. The Chief Risk Officer and head of MRM also provide quarterly updates to the BRC on model risk metrics.

Liquidity Risk

Liquidity risk refers to the risk that we will be unable to finance our operations due to a loss of access to the capital markets or difficulty in liquidating our assets. Liquidity risk also encompasses our ability (or perceived ability) to meet our financial obligations without experiencing significant business disruption or reputational damage that may threaten our viability as a going concern. Liquidity risk also encompasses the associated funding risks triggered by the market or idiosyncratic stress events that may negatively affect our liquidity and may impact our ability to raise new funding. Generally, we incur liquidity and funding risk as a result of our trading, lending, investing and client facilitation activities.

Our Liquidity Risk Management Framework is critical to helping ensure that we maintain sufficient liquidity reserves and durable funding sources to meet our daily obligations and to withstand unanticipated stress events. The Liquidity Risk Department is a distinct area in Risk Management responsible for the oversight and monitoring of liquidity risk. The Liquidity Risk Department ensures transparency of material liquidity and funding risks, compliance with established risk limits and escalation of risk concentrations to appropriate senior management.

To execute these responsibilities, the Liquidity Risk Department establishes limits in line with our risk appetite, identifies and analyzes emerging liquidity and funding risks to ensure such risks are appropriately mitigated, monitors and reports risk exposures against metrics and limits, and reviews the methodologies and assumptions underpinning our Liquidity Stress Tests to ensure sufficient liquidity and funding under a range of adverse scenarios. The liquidity and funding risks identified by these processes are summarized in reports produced by the Liquidity Risk Department that are circulated to and discussed with senior management, the FRC, the BRC and the Board, as appropriate.

The Treasury Department and applicable business units have primary responsibility for evaluating, monitoring and controlling the liquidity and funding risks arising from our business activities and for maintaining processes and controls to manage the key risks inherent in their respective areas. The Liquidity Risk Department coordinates with the Treasury Department and these business units to help ensure a consistent and comprehensive framework for managing liquidity and funding risk across the Firm. See also "Management's Discussion and Analysis of Financial Condition and Results of Operations—Liquidity and Capital Resources."

Legal and Compliance Risk

Legal and compliance risk includes the risk of legal or regulatory sanctions, material financial loss, including fines, penalties, judgments, damages and/or settlements, or loss to reputation that we may suffer as a result of failure to comply with laws, regulations, rules, related self-regulatory organization standards and codes of conduct applicable to our business activities. This risk also includes contractual and commercial risk, such as the risk that a counterparty's performance obligations will be unenforceable. It also includes compliance with AML, terrorist financing, and anti-corruption rules and regulations. We are generally subject to extensive regulation in the different jurisdictions in which we conduct our business (see also "Business—Supervision and Regulation" and "Risk Factors").

We have established procedures based on legal and regulatory requirements on a worldwide basis that are designed to facilitate compliance with applicable statutory and regulatory requirements and to require that our policies relating to business conduct, ethics and practices are followed globally. In addition, we have established procedures to mitigate the risk that a counterparty's performance obligations will be unenforceable, including consideration of counterparty legal authority and capacity, adequacy of legal documentation, the permissibility of a transaction under applicable law and whether applicable bankruptcy or insolvency laws limit or alter contractual remedies. The heightened legal and regulatory focus on the financial services and banking industries globally presents a continuing business challenge for us.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholders and Board of Directors of Morgan Stanley:

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Morgan Stanley and subsidiaries (the "Firm") as of December 31, 2018 and 2017, the related consolidated income statements, comprehensive income statements, cash flow statements and statements of changes in total equity for each of the three years ended December 31, 2018, 2017, and 2016, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Firm as of December 31, 2018 and 2017, and the results of its operations and its cash flows for each of the three years ended December 31, 2018, 2017, and 2016, in conformity with accounting principles generally accepted in the United States of America.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Firm's internal control over financial reporting as of December 31, 2018, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated February 26, 2019, expressed an unqualified opinion on the Firm's internal control over financial reporting.

Basis for Opinion

These financial statements are the responsibility of the Firm's management. Our responsibility is to express an opinion on the Firm's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Firm in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ Deloitte & Touche LLP
New York, New York
February 26, 2019

We have served as the Firm's auditor since 1997.

Consolidated Income Statements

Morgan Stanley

in millions, except per share data	**2018**	2017	2016
Revenues			
Investment banking	**$ 6,482**	$ 6,003	$ 4,933
Trading	**11,551**	11,116	10,209
Investments	**437**	820	160
Commissions and fees	**4,190**	4,061	4,109
Asset management	**12,898**	11,797	10,697
Other	**743**	848	825
Total non-interest revenues	**36,301**	34,645	30,933
Interest income	**13,892**	8,997	7,016
Interest expense	**10,086**	5,697	3,318
Net interest	**3,806**	3,300	3,698
Net revenues	**40,107**	37,945	34,631
Non-interest expenses			
Compensation and benefits	**17,632**	17,166	15,878
Occupancy and equipment	**1,391**	1,329	1,308
Brokerage, clearing and exchange fees	**2,393**	2,093	1,920
Information processing and communications	**2,016**	1,791	1,787
Marketing and business development	**691**	609	587
Professional services	**2,265**	2,169	2,128
Other	**2,482**	2,385	2,175
Total non-interest expenses	**28,870**	27,542	25,783
Income from continuing operations before income taxes	**11,237**	10,403	8,848
Provision for income taxes	**2,350**	4,168	2,726
Income from continuing operations	**8,887**	6,235	6,122
Income (loss) from discontinued operations, net of income taxes	**(4)**	(19)	1
Net income	**$ 8,883**	$ 6,216	$ 6,123
Net income applicable to noncontrolling interests	**135**	105	144
Net income applicable to Morgan Stanley	**$ 8,748**	$ 6,111	$ 5,979
Preferred stock dividends and other	**526**	523	471
Earnings applicable to Morgan Stanley common shareholders	**$ 8,222**	$ 5,588	$ 5,508
Earnings per basic common share			
Income from continuing operations	**$ 4.81**	$ 3.15	$ 2.98
Income (loss) from discontinued operations	**—**	(0.01)	—
Earnings per basic common share	**$ 4.81**	$ 3.14	$ 2.98
Earnings per diluted common share			
Income from continuing operations	**$ 4.73**	$ 3.08	$ 2.92
Income (loss) from discontinued operations	**—**	(0.01)	—
Earnings per diluted common share	**$ 4.73**	$ 3.07	$ 2.92
Average common shares outstanding			
Basic	**1,708**	1,780	1,849
Diluted	**1,738**	1,821	1,887

Consolidated Comprehensive Income Statements

$ in millions	2018	2017	2016
Net income	$ 8,883	$ 6,216	$ 6,123
Other comprehensive income (loss), net of tax:			
Foreign currency translation adjustments	$ (90)	$ 251	$ (11)
Change in net unrealized gains (losses) on available-for-sale securities	(272)	41	(269)
Pension, postretirement and other	137	(117)	(100)
Change in net debt valuation adjustment	1,517	(588)	(296)
Total other comprehensive income (loss)	$ 1,292	$ (413)	$ (676)
Comprehensive income	$ 10,175	$ 5,803	$ 5,447
Net income applicable to noncontrolling interests	135	105	144
Other comprehensive income (loss) applicable to noncontrolling interests	87	4	(1)
Comprehensive income applicable to Morgan Stanley	**$ 9,953**	$ 5,694	$ 5,304

Consolidated Balance Sheets

$ in millions, except share data	At December 31, 2018	At December 31, 2017
Assets		
Cash and cash equivalents:		
Cash and due from banks	**$ 30,541**	$ 24,816
Interest bearing deposits with banks	**21,299**	21,348
Restricted cash	**35,356**	34,231
Trading assets at fair value (**$120,437** and $169,735 were pledged to various parties)	**266,299**	298,282
Investment securities (includes **$61,061** and $55,203 at fair value)	**91,832**	78,802
Securities purchased under agreements to resell	**98,522**	84,258
Securities borrowed	**116,313**	124,010
Customer and other receivables	**53,298**	56,187
Loans:		
Held for investment (net of allowance of **$238** and $224)	**99,815**	92,953
Held for sale	**15,764**	11,173
Goodwill	**6,688**	6,597
Intangible assets (net of accumulated amortization of **$2,877** and $2,730)	**2,163**	2,448
Other assets	**15,641**	16,628
Total assets	**$ 853,531**	$ 851,733
Liabilities		
Deposits (includes **$442** and $204 at fair value)	**$ 187,820**	$ 159,436
Trading liabilities at fair value	**126,747**	131,295
Securities sold under agreements to repurchase (includes **$812** and $800 at fair value)	**49,759**	56,424
Securities loaned	**11,908**	13,592
Other secured financings (includes **$5,245** and $3,863 at fair value)	**9,466**	11,271
Customer and other payables	**179,559**	191,510
Other liabilities and accrued expenses	**17,204**	17,157
Borrowings (includes **$51,184** and $46,912 at fair value)	**189,662**	192,582
Total liabilities	**772,125**	773,267
Commitments and contingent liabilities (see Note 12)		
Equity		
Morgan Stanley shareholders' equity:		
Preferred stock	**8,520**	8,520
Common stock, $0.01 par value: Shares authorized: **3,500,000,000**; Shares issued: **2,038,893,979**; Shares outstanding: **1,699,828,943** and 1,788,086,805	**20**	20
Additional paid-in capital	**23,794**	23,545
Retained earnings	**64,175**	57,577
Employee stock trusts	**2,836**	2,907
Accumulated other comprehensive income (loss)	**(2,292)**	(3,060)
Common stock held in treasury at cost, $0.01 par value (**339,065,036** and 250,807,174 shares)	**(13,971)**	(9,211)
Common stock issued to employee stock trusts	**(2,836)**	(2,907)
Total Morgan Stanley shareholders' equity	**80,246**	77,391
Noncontrolling interests	**1,160**	1,075
Total equity	**81,406**	78,466
Total liabilities and equity	**$ 853,531**	$ 851,733

Consolidated Statements of Changes in Total Equity

$ in millions	Preferred Stock	Common Stock	Additional Paid-in Capital	Retained Earnings	Employee Stock Trusts	Accumulated Other Comprehensive Income (Loss)	Common Stock Held in Treasury at Cost	Common Stock Issued to Employee Stock Trusts	Non-controlling Interests	Total Equity
Balance at December 31, 2015	7,520	20	24,153	49,204	2,409	(1,656)	(4,059)	(2,409)	1,002	76,184
Cumulative adjustment for accounting change related to DVA[1]	—	—	—	312	—	(312)	—	—	—	—
Net adjustment for accounting change related to consolidation[2]	—	—	—	—	—	—	—	—	106	106
Net income applicable to Morgan Stanley	—	—	—	5,979	—	—	—	—	—	5,979
Net income applicable to noncontrolling interests	—	—	—	—	—	—	—	—	144	144
Preferred stock dividends[3]	—	—	—	(468)	—	—	—	—	—	(468)
Common stock dividends ($0.70 per share)	—	—	—	(1,348)	—	—	—	—	—	(1,348)
Shares issued under employee plans and related tax effects	—	—	(892)	—	442	—	2,195	(442)	—	1,303
Repurchases of common stock and employee tax withholdings	—	—	—	—	—	—	(3,933)	—	—	(3,933)
Net change in Accumulated other comprehensive income (loss)	—	—	—	—	—	(675)	—	—	(1)	(676)
Other net increases (decreases)	—	—	10	—	—	—	—	—	(124)	(114)
Balance at December 31, 2016	7,520	20	23,271	53,679	2,851	(2,643)	(5,797)	(2,851)	1,127	77,177
Cumulative adjustments for accounting changes[4]	—	—	45	(35)	—	—	—	—	—	10
Net income applicable to Morgan Stanley	—	—	—	6,111	—	—	—	—	—	6,111
Net income applicable to noncontrolling interests	—	—	—	—	—	—	—	—	105	105
Preferred stock dividends[3]	—	—	—	(523)	—	—	—	—	—	(523)
Common stock dividends ($0.90 per share)	—	—	—	(1,655)	—	—	—	—	—	(1,655)
Shares issued under employee plans	—	—	306	—	56	—	878	(56)	—	1,184
Repurchases of common stock and employee tax withholdings	—	—	—	—	—	—	(4,292)	—	—	(4,292)
Net change in Accumulated other comprehensive income (loss)	—	—	—	—	—	(417)	—	—	4	(413)
Issuance of preferred stock	1,000	—	(6)	—	—	—	—	—	—	994
Other net decreases	—	—	(71)	—	—	—	—	—	(161)	(232)
Balance at December 31, 2017	$ 8,520	$ 20	$ 23,545	$ 57,577	$ 2,907	$ (3,060)	$ (9,211)	$ (2,907)	$ 1,075	$ 78,466
Cumulative adjustments for accounting changes[4]	**—**	**—**	**—**	**306**	**—**	**(437)**	**—**	**—**	**—**	**(131)**
Net income applicable to Morgan Stanley	**—**	**—**	**—**	**8,748**	**—**	**—**	**—**	**—**	**—**	**8,748**
Net income applicable to noncontrolling interests	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**135**	**135**
Preferred stock dividends[3]	**—**	**—**	**—**	**(526)**	**—**	**—**	**—**	**—**	**—**	**(526)**
Common stock dividends **($1.10 per share)**	**—**	**—**	**—**	**(1,930)**	**—**	**—**	**—**	**—**	**—**	**(1,930)**
Shares issued under employee plans	**—**	**—**	**249**	**—**	**(71)**	**—**	**806**	**71**	**—**	**1,055**
Repurchases of common stock and employee tax withholdings	**—**	**—**	**—**	**—**	**—**	**—**	**(5,566)**	**—**	**—**	**(5,566)**
Net change in Accumulated other comprehensive income (loss)	**—**	**—**	**—**	**—**	**—**	**1,205**	**—**	**—**	**87**	**1,292**
Other net decreases	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**(137)**	**(137)**
Balance at December 31, 2018	**$ 8,520**	**$ 20**	**$ 23,794**	**$ 64,175**	**$ 2,836**	**$ (2,292)**	**$ (13,971)**	**$ (2,836)**	**$ 1,160**	**$ 81,406**

1. In accordance with the early adoption of a provision of the accounting update *Recognition and Measurement of Financial Assets and Financial Liabilities*, a cumulative catch-up adjustment was recorded as of January 1, 2016 to move the cumulative unrealized DVA amount, net of noncontrolling interests and tax, related to outstanding liabilities under the fair value option election from Retained earnings into AOCI. See Note 15 for further information.
2. In accordance with the accounting update *Amendments to the Consolidation Analysis*, a net adjustment was recorded as of January 1, 2016 to both consolidate and deconsolidate certain entities under the new guidance.
3. See Note 15 for information regarding dividends per share for each class of preferred stock.
4. Cumulative adjustments for accounting changes relate to the adoption of certain accounting updates during 2018 and 2017. See Notes 2 and 15 for further information.

Consolidated Cash Flow Statements

$ in millions	2018	2017	2016
Cash flows from operating activities			
Net income	**$ 8,883**	$ 6,216	$ 6,123
Adjustments to reconcile net income to net cash provided by (used for) operating activities:			
Deferred income taxes	**449**	2,747	1,579
Stock-based compensation expense	**920**	1,026	1,136
Depreciation and amortization	**1,844**	1,753	1,736
(Release of) Provision for credit losses on lending activities	**(15)**	29	144
Other operating adjustments	**199**	153	(102)
Changes in assets and liabilities:			
Trading assets, net of Trading liabilities	**23,732**	(27,588)	(24,079)
Securities borrowed	**7,697**	1,226	17,180
Securities loaned	**(1,684)**	(2,252)	(3,514)
Customer and other receivables and other assets	**(728)**	(9,315)	(371)
Customer and other payables and other liabilities	**(13,063)**	2,007	1,913
Securities purchased under agreements to resell	**(14,264)**	17,697	(14,298)
Securities sold under agreements to repurchase	**(6,665)**	1,796	17,936
Net cash provided by (used for) operating activities	**7,305**	(4,505)	5,383
Cash flows from investing activities			
Proceeds from (payments for):			
Other assets—Premises, equipment and software, net	**(1,865)**	(1,629)	(1,276)
Changes in loans, net	**(8,794)**	(12,125)	(9,604)
Investment securities:			
Purchases	**(27,800)**	(23,962)	(50,911)
Proceeds from sales	**3,208**	18,131	33,716
Proceeds from paydowns and maturities	**12,668**	7,445	8,367
Other investing activities	**(298)**	(251)	200
Net cash provided by (used for) investing activities	**(22,881)**	(12,391)	(19,508)
Cash flows from financing activities			
Net proceeds from (payments for):			
Noncontrolling interests	**(130)**	(83)	(96)
Other secured financings	**(1,226)**	(1,573)	1,333
Deposits	**28,384**	3,573	(171)
Proceeds from:			
Issuance of preferred stock, net of issuance costs	**—**	994	—
Issuance of Borrowings	**40,059**	55,416	43,626
Payments for:			
Borrowings	**(34,781)**	(35,825)	(31,596)
Repurchases of common stock and employee tax withholdings	**(5,566)**	(4,292)	(3,933)
Cash dividends	**(2,375)**	(2,085)	(1,746)
Other financing activities	**(160)**	136	(54)
Net cash provided by (used for) financing activities	**24,205**	16,261	7,363
Effect of exchange rate changes on cash and cash equivalents	**(1,828)**	3,670	(1,430)
Net increase (decrease) in cash and cash equivalents	**6,801**	3,035	(8,192)
Cash and cash equivalents, at beginning of period	**80,395**	77,360	85,552
Cash and cash equivalents, at end of period	**$ 87,196**	$ 80,395	$ 77,360
Cash and cash equivalents:			
Cash and due from banks	**$ 30,541**	$ 24,816	$ 22,017
Interest bearing deposits with banks	**21,299**	21,348	21,364
Restricted cash	**35,356**	34,231	33,979
Cash and cash equivalents, at end of period	**$ 87,196**	$ 80,395	$ 77,360

Supplemental Disclosure of Cash Flow Information

Cash payments for:			
Interest	**$ 9,977**	$ 5,377	$ 2,834
Income taxes, net of refunds	**1,377**	1,390	831

 See Notes to Consolidated Financial Statements

1. Introduction and Basis of Presentation

The Firm

Morgan Stanley is a global financial services firm that maintains significant market positions in each of its business segments—Institutional Securities, Wealth Management and Investment Management. Morgan Stanley, through its subsidiaries and affiliates, provides a wide variety of products and services to a large and diversified group of clients and customers, including corporations, governments, financial institutions and individuals. Unless the context otherwise requires, the terms "Morgan Stanley" or the "Firm" mean Morgan Stanley (the "Parent Company") together with its consolidated subsidiaries. See the "Glossary of Common Acronyms" for the definition of certain acronyms used throughout the 2018 Form 10-K.

A description of the clients and principal products and services of each of the Firm's business segments is as follows:

Institutional Securities provides investment banking, sales and trading, lending and other services to corporations, governments, financial institutions, and high to ultra-high net worth clients. Investment banking services consist of capital raising and financial advisory services, including services relating to the underwriting of debt, equity and other securities, as well as advice on mergers and acquisitions, restructurings, real estate and project finance. Sales and trading services include sales, financing, prime brokerage and market-making activities in equity and fixed income products, including foreign exchange and commodities. Lending activities include originating corporate loans, commercial mortgage lending, asset-backed lending and financing extended to sales and trading customers. Other activities include investments and research.

Wealth Management provides a comprehensive array of financial services and solutions to individual investors and small to medium-sized businesses and institutions covering brokerage and investment advisory services; financial and wealth planning services; annuity and insurance products; securities-based lending, residential real estate loans and other lending products; banking and retirement plan services.

Investment Management provides a broad range of investment strategies and products that span geographies, asset classes, and public and private markets to a diverse group of clients across institutional and intermediary channels. Strategies and products include equity, fixed income, liquidity and alternative/other products. Institutional clients include defined benefit/defined contribution plans, foundations, endowments, government entities, sovereign wealth funds, insurance companies, third-party fund sponsors and corporations. Individual clients are served through intermediaries, including affiliated and non-affiliated distributors.

Basis of Financial Information

The consolidated financial statements ("financial statements") are prepared in accordance with U.S. GAAP, which require the Firm to make estimates and assumptions regarding the valuations of certain financial instruments, the valuation of goodwill and intangible assets, compensation, deferred tax assets, the outcome of legal and tax matters, allowance for credit losses and other matters that affect its financial statements and related disclosures. The Firm believes that the estimates utilized in the preparation of its financial statements are prudent and reasonable. Actual results could differ materially from these estimates. Intercompany balances and transactions have been eliminated. Certain reclassifications have been made to prior periods to conform to the current presentation.

Consolidation

The financial statements include the accounts of the Firm, its wholly owned subsidiaries and other entities in which the Firm has a controlling financial interest, including certain VIEs (see Note 13). For consolidated subsidiaries that are less than wholly owned, the third-party holdings of equity interests are referred to as noncontrolling interests. The net income attributable to noncontrolling interests for such subsidiaries is presented as Net income applicable to noncontrolling interests in the consolidated income statements ("income statements"). The portion of shareholders' equity that is attributable to noncontrolling interests for such subsidiaries is presented as noncontrolling interests, a component of total equity, in the consolidated balance sheets ("balance sheets").

For entities where the total equity investment at risk is sufficient to enable the entity to finance its activities without additional subordinated financial support and the equity holders bear the economic residual risks and returns of the entity and have the power to direct the activities of the entity that most significantly affect its economic performance, the Firm consolidates those entities it controls either through a majority voting interest or otherwise. For VIEs (*i.e.*, entities that do not meet the aforementioned criteria), the Firm consolidates those entities where it has the power to make the decisions that most significantly affect the economic performance of the VIE and has the obligation to absorb losses or the right to receive benefits that could potentially be significant to the VIE.

For investments in entities in which the Firm does not have a controlling financial interest but has significant influence over operating and financial decisions, it applies the equity method of accounting with net gains and losses recorded within Other revenues (see Note 8) unless the Firm has elected to measure the investment at fair value, in which case net gains and losses are recorded within Investments revenues (see Note 3).

Equity and partnership interests held by entities qualifying for accounting purposes as investment companies are carried at fair value.

The Firm's significant regulated U.S. and international subsidiaries include Morgan Stanley & Co. LLC ("MS&Co."), Morgan Stanley Smith Barney LLC ("MSSB LLC"), Morgan Stanley & Co. International plc ("MSIP"), Morgan Stanley MUFG Securities Co., Ltd. ("MSMS"), Morgan Stanley Bank, N.A. ("MSBNA") and Morgan Stanley Private Bank, National Association ("MSPBNA").

Consolidated Cash Flow Statements Presentation

For purposes of the consolidated cash flow statements ("cash flow statements"), cash and cash equivalents consist of Cash and due from banks, Interest bearing deposits with banks and Restricted cash. Cash and cash equivalents includes highly liquid investments with original maturities of three months or less that are held for investment purposes and are readily convertible to known amounts of cash.

Restricted cash includes cash in banks subject to withdrawal restrictions, restricted deposits held as compensating balances and cash segregated in compliance with federal or other regulations.

2. Significant Accounting Policies

Revenue Recognition

Revenues are recognized when the promised goods or services are delivered to our customers, in an amount that is based on the consideration the Firm expects to receive in exchange for those goods or services when such amounts are not probable of significant reversal. These policies reflect the adoption of *Revenue from Contracts with Customers* on January 1, 2018. Please see "Accounting Updates Adopted" herein for the more significant differences in policies applied in prior periods.

Investment Banking

Revenues from investment banking activities consist of revenues earned from underwriting primarily equity and fixed income securities and advisory fees for mergers, acquisitions, restructurings and advisory assignments.

Underwriting revenues are generally recognized on trade date if there is no uncertainty or contingency related to the amount to be paid. Underwriting costs are deferred and recognized in the relevant non-interest expenses line items when the related underwriting revenues are recorded.

Advisory fees are recognized as advice is provided to the client, based on the estimated progress of work and when revenues are not probable of a significant reversal. Advisory costs are recognized as incurred in the relevant non-interest expenses line items, including when reimbursed.

Commissions and Fees

Commission and fee revenues result from transaction-based arrangements in which the client is charged a fee for the execution of transactions. Such revenues primarily arise from transactions in equity securities; services related to sales and trading activities; and sales of mutual funds, alternative funds, futures, insurance products and options. Commission and fee revenues are recognized on trade date when the performance obligation is satisfied.

Asset Management Revenues

Asset management, distribution and administration fees are generally based on related asset levels being managed, such as the AUM of a customer's account or the net asset value of a fund. These fees are generally recognized when services are performed and the fees become known. Management fees are reduced by estimated fee waivers and expense caps, if any, provided to the customer.

Performance-based fees not in the form of carried interest are recorded when the annual performance target is met and the revenues are not probable of a significant reversal.

Sales commissions paid by the Firm in connection with the sale of certain classes of shares of its open-end mutual fund products are accounted for as deferred commission assets and amortized to expense over the expected life of the contract. The Firm periodically tests deferred commission assets for recoverability based on cash flows expected to be received in future periods. Other asset management and distribution costs are recognized as incurred in the relevant non-interest expenses line items.

Carried Interest

The Firm is entitled to receive performance-based fees in the form of carried interest when the return on assets under management exceeds certain benchmark returns or other performance targets. When the Firm earns carried interest from funds as specified performance thresholds are met, that carried interest and any related general or limited partner interest is accounted for under the equity method of accounting and measured based on the Firm's claim on the NAV of the fund at the reporting date, taking into account the distribution terms applicable to the interest held.

See Note 21 for information regarding the net cumulative unrealized amount of performance-based fee revenues at risk of reversal. See Note 12 for information regarding general partner guarantees, which include potential obligations to return performance fee distributions previously received.

Other Items

Revenues from certain commodities-related contracts are recognized as the promised goods or services are delivered to the customer.

Receivables from contracts with customers are recognized in Customer and other receivables in the balance sheets when the underlying performance obligations have been satisfied and the Firm has the right per the contract to bill the customer. Contract assets are recognized in Other assets when the Firm has satisfied its performance obligations but customer payment is conditional. Contract liabilities are recognized in Other liabilities when the Firm has collected payment from a customer based on the terms of the contract but the underlying performance obligations are not yet satisfied.

For contracts with a term less than one year, incremental costs to obtain the contract are expensed as incurred. Revenues are not discounted when payment is expected within one year.

The Firm presents, net within revenues, all taxes assessed by a governmental authority that are both imposed on and concurrent with a specific revenue-producing transaction and collected by the Firm from a customer.

Fair Value of Financial Instruments

Instruments within Trading assets and Trading liabilities are measured at fair value, either as required by accounting guidance or through the fair value option election (discussed below). These financial instruments primarily represent the Firm's trading and investment positions and include both cash and derivative products. In addition, debt and equity securities classified as AFS securities are measured at fair value.

Gains and losses on instruments carried at fair value are reflected in Trading revenues, Investments revenues or Investment banking revenues in the income statements, except for AFS securities (see "Investment Securities—AFS and HTM securities" section herein and Note 5) and derivatives accounted for as hedges (see "Hedge Accounting" section herein and Note 4).

Interest income and interest expense are recorded within the income statements depending on the nature of the instrument and related market conventions. When interest is included as a component of the instruments' fair value, interest is included within Trading revenues or Investments revenues. Otherwise, it is included within Interest income or Interest expense. Dividend income is recorded in Trading revenues or Investments revenues depending on the business activity.

The fair value of OTC financial instruments, including derivative contracts related to financial instruments and commodities, is presented in the accompanying balance sheets on a net-by-counterparty basis, when appropriate. Additionally, the Firm nets the fair value of cash collateral paid or received against the fair value amounts recognized for net derivative positions executed with the same counterparty under the same master netting agreement.

Fair Value Option

The Firm has elected to measure certain eligible instruments at fair value, including certain Securities purchased under agreements to resell, loans and lending commitments, equity method investments, Deposits (*i.e.*, structured certificates of deposit), Securities sold under agreements to repurchase, Other secured financings and Borrowings (primarily structured notes).

Fair Value Measurement—Definition and Hierarchy

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability (*i.e.*, the "exit price") in an orderly transaction between market participants at the measurement date.

Fair value is a market-based measure considered from the perspective of a market participant rather than an entity-specific measure. Therefore, even when market assumptions are not readily available, assumptions are set to reflect those that the Firm believes market participants would use in pricing the asset or liability at the measurement date. Where the Firm manages a group of financial assets, financial liabilities, and nonfinancial items accounted for as derivatives on the basis of its net exposure to either market risks or credit risk, the Firm measures the fair value of that group of financial instruments consistently with how market participants would price the net risk exposure at the measurement date.

In determining fair value, the Firm uses various valuation approaches and establishes a hierarchy for inputs used in measuring fair value that requires the most observable inputs be used when available.

Observable inputs are inputs that market participants would use in pricing the asset or liability that were developed based on market data obtained from sources independent of the Firm. Unobservable inputs are inputs that reflect assumptions the Firm believes other market participants would use in pricing the asset or liability that are developed based on the best information available in the circumstances. The fair value hierarchy is broken down into three levels based on the observability of inputs as follows, with Level 1 being the highest and Level 3 being the lowest level:

Level 1. Valuations based on quoted prices in active markets that the Firm has the ability to access for identical assets or liabilities. Valuation adjustments and block discounts are not applied to Level 1 instruments. Since valuations are based on quoted prices that are readily and regularly available in an active market, valuation of these products does not entail a significant degree of judgment.

Level 2. Valuations based on one or more quoted prices in markets that are not active or for which all significant inputs are observable, either directly or indirectly.

Level 3. Valuations based on inputs that are unobservable and significant to the overall fair value measurement.

The availability of observable inputs can vary from product to product and is affected by a wide variety of factors, for example, the type of product, whether the product is new and not yet established in the marketplace, the liquidity of markets and other characteristics particular to the product. To the extent that valuation is based on models or inputs that are less observable or unobservable in the market, the determination of fair value requires more judgment. Accordingly, the degree of judgment exercised by the Firm in determining fair value is greatest for instruments categorized in Level 3 of the fair value hierarchy.

The Firm considers prices and inputs that are current as of the measurement date, including during periods of market dislocation. In periods of market dislocation, the observability of prices and inputs may be reduced for many instruments. This condition could cause an instrument to be reclassified from Level 1 to Level 2 or from Level 2 to Level 3 of the fair value hierarchy.

In certain cases, the inputs used to measure fair value may fall into different levels of the fair value hierarchy. In such cases, the total fair value amount is disclosed in the level appropriate for the lowest level input that is significant to the total fair value of the asset or liability.

Valuation Techniques

Many cash instruments and OTC derivative contracts have bid and ask prices that can be observed in the marketplace. Bid prices reflect the highest price that a party is willing to pay for an asset. Ask prices represent the lowest price that a party is willing to accept for an asset. The Firm carries positions at the point within the bid-ask range that meets its best estimate of fair value. For offsetting positions in the same financial instrument, the same price within the bid-ask spread is used to measure both the long and short positions.

Fair value for many cash instruments and OTC derivative contracts is derived using pricing models. Pricing models take into account the contract terms, as well as multiple inputs, including, where applicable, commodity prices, equity prices, interest rate yield curves, credit curves, correlation, creditworthiness of the counterparty, creditworthiness of the Firm, option volatility and currency rates.

Where appropriate, valuation adjustments are made to account for various factors such as liquidity risk (bid-ask adjustments), credit quality, model uncertainty and concentration risk. Adjustments for liquidity risk adjust model-derived mid-market levels of Level 2 and Level 3 financial instruments for the bid-mid or mid-ask spread required to properly reflect the exit price of a risk position. Bid-mid and mid-ask spreads are marked to levels observed in trade activity, broker quotes or other external third-party data. Where these spreads are unobservable for the particular position in question, spreads are derived from observable levels of similar positions.

The Firm applies credit-related valuation adjustments to its Borrowings (primarily structured notes) for which the fair value option was elected and to OTC derivatives. The Firm considers the impact of changes in its own credit spreads based upon observations of the secondary bond market spreads when measuring the fair value for Borrowings.

For OTC derivatives, the impact of changes in both the Firm's and the counterparty's credit rating is considered when measuring fair value. In determining the expected exposure, the Firm simulates the distribution of the future exposure to a counterparty, then applies market-based default probabilities to the future exposure, leveraging external third-party CDS spread data. Where CDS spread data are unavailable for a specific counterparty, bond market spreads, CDS spread data based on the counterparty's credit rating or CDS spread data that reference a comparable counterparty may be utilized. The Firm also considers collateral held and legally enforceable master netting agreements that mitigate its exposure to each counterparty.

Adjustments for model uncertainty are taken for positions whose underlying models are reliant on significant inputs that are neither directly nor indirectly observable, hence requiring reliance on established theoretical concepts in their derivation. These adjustments are derived by making assessments of the possible degree of variability using statistical approaches and market-based information where possible.

The Firm may apply concentration adjustments to certain of its OTC derivative portfolios to reflect the additional cost of closing out a particularly large risk exposure. Where possible, these adjustments are based on observable market information, but in many instances, significant judgment is required to estimate the costs of closing out concentrated risk exposures due to the lack of liquidity in the marketplace.

The Firm applies an FVA in the fair value measurements of OTC uncollateralized or partially collateralized derivatives and in collateralized derivatives where the terms of the agreement do not permit the reuse of the collateral received. In general, FVA reflects a market funding risk premium inherent in the noted derivative instruments. The methodology for measuring FVA leverages the Firm's existing credit-related valuation adjustment calculation methodologies, which apply to both assets and liabilities.

See Note 3 for a description of valuation techniques applied to the major categories of financial instruments measured at fair value.

Assets and Liabilities Measured at Fair Value on a Non-recurring Basis

Certain of the Firm's assets and liabilities are measured at fair value on a non-recurring basis. The Firm incurs losses or gains for any adjustments of these assets or liabilities to fair value.

For assets and liabilities measured at fair value on a non-recurring basis, fair value is determined by using various valuation approaches. The same hierarchy for inputs as described above, which requires that observable inputs be used when available, is used in measuring fair value for these items.

For further information on financial assets and liabilities that are measured at fair value on a recurring and non-recurring basis, see Note 3.

Offsetting of Derivative Instruments

In connection with its derivative activities, the Firm generally enters into master netting agreements and collateral agreements with its counterparties. These agreements provide the Firm with the right, in the event of a default by the counterparty, to net a counterparty's rights and obligations under the agreement and to liquidate and set off collateral against any net amount owed by the counterparty.

However, in certain circumstances, the Firm may not have such an agreement in place; the relevant insolvency regime may not support the enforceability of the master netting agreement or collateral agreement; or the Firm may not have sought legal advice to support the enforceability of the agreement. In cases where the Firm has not determined an agreement to be enforceable, the related amounts are not offset (see Note 4).

The Firm's policy is generally to receive securities and cash posted as collateral (with rights of rehypothecation), irrespective of the enforceability determination regarding the master netting and collateral agreement. In certain cases, the Firm may agree for such collateral to be posted to a third-party custodian under a control agreement that enables it to take control of such collateral in the event of a counterparty default. The enforceability of the master netting agreement is taken into account in the Firm's risk management practices and application of counterparty credit limits.

For information related to offsetting of derivatives and certain collateralized transactions, see Notes 4 and 6, respectively.

Hedge Accounting

The Firm applies hedge accounting using various derivative financial instruments for the following types of hedges: hedges of changes in the fair value of assets and liabilities due to the risk being hedged (fair value hedges); and hedges of net investments in foreign operations whose functional currency is different from the reporting currency of the Parent Company (net investment hedges). These financial instruments are included within Trading assets—Derivative and other contracts or Trading liabilities—Derivative and other contracts in the balance sheets. For hedges where hedge accounting is being applied, the Firm performs effectiveness testing and other procedures.

Fair Value Hedges—Interest Rate Risk

The Firm's designated fair value hedges consist primarily of interest rate swaps designated as fair value hedges of changes in the benchmark interest rate of certain fixed rate senior borrowings. In the third quarter of 2018, the Firm also began designating interest rate swaps as fair value hedges of changes in the benchmark interest rate of certain AFS securities. The Firm is permitted to hedge the full, or part of the, contractual term of the hedged instrument. The Firm uses regression analysis to perform an ongoing prospective and retrospective assessment of the effectiveness of these hedging relationships. A hedging relationship is deemed effective if the change in fair value of the hedging instrument (derivative) and the change in fair value of the hedged item (debt liability or AFS security) due to changes in the benchmark interest rate offset within a range of 80% to 125%. The Firm considers the impact of valuation adjustments related to its own credit spreads and counterparty credit spreads to determine whether they would cause the hedging relationship to be ineffective.

For qualifying fair value hedges of benchmark interest rates, the change in the fair value of the derivative is recognized in earnings each period, offset by the change in the fair value attributable to the change in the benchmark interest rate risk of the hedged asset (liability), and is recorded in Interest income (expense). For AFS securities, the change in fair value of the hedged item due to changes other than the risk being hedged will continue to be reported in OCI. When a derivative is de-designated as a hedge, any basis adjustment remaining on the hedged asset (liability) is amortized to Interest income (expense) over the remaining life of the asset (liability) using the effective interest method.

Net Investment Hedges

The Firm uses forward foreign exchange contracts to manage a portion of the currency exposure relating to its net investments in foreign operations. To the extent that the notional amounts of the hedging instruments equal the portion of the investments being hedged and the underlying exchange rate of the derivative hedging instrument is the same as the exchange rate between the functional currency of the investee and the intermediate parent entity's functional currency, it is considered to be perfectly effective, with no income statement recognition. If these exchange rates are not the same, the Firm uses regression analysis to assess the prospective and retrospective effectiveness of the hedge relationships. The gain or loss from revaluing hedges of net investments in foreign operations at the spot rate is reported within AOCI. The forward points on the hedging instruments are excluded from hedge effectiveness testing and changes in the fair value of this excluded component are recorded currently in Interest income.

For further information on derivative instruments and hedging activities, see Note 4.

Investment Securities—Available-for-Sale and Held-to-Maturity

AFS securities are reported at fair value in the balance sheets with unrealized gains and losses reported in AOCI, net of tax. Interest and dividend income, including amortization of premiums and accretion of discounts, is included in Interest income in the income statements. Realized gains and losses on sales of AFS securities are classified within Other revenues in the income statements (see Note 5). The Firm utilizes the "first-in, first-out" method as the basis for determining the cost of AFS securities.

HTM securities are reported at amortized cost in the balance sheets. Interest income, including amortization of premiums and accretion of discounts on HTM securities, is included in Interest income in the income statements.

Other-than-Temporary Impairment

AFS debt securities and HTM securities with a current fair value less than their amortized cost are analyzed as part of the Firm's periodic assessment of temporary versus OTTI at the individual security level. A temporary impairment is recognized in AOCI for AFS debt securities. OTTI is recognized in the income statements with the exception of the non-credit portion related to a debt security that the Firm does not intend to sell and is not likely to be required to sell, which is recognized in AOCI.

For AFS debt securities that the Firm either has the intent to sell or that the Firm is likely to be required to sell before recovery of its amortized cost basis, the impairment is considered OTTI.

For those AFS debt securities that the Firm does not have the intent to sell or is not likely to be required to sell, and for all HTM securities, the Firm evaluates whether it expects to recover the entire amortized cost basis of the debt security. If the Firm does not expect to recover the entire amortized cost of those AFS debt securities or HTM securities, the impairment is considered OTTI, and the Firm determines what portion of the impairment relates to a credit loss and what portion relates to non-credit factors.

A credit loss exists if the present value of cash flows expected to be collected (discounted at the implicit interest rate at acquisition of the security or discounted at the effective yield for securities that incorporate changes in prepayment assumptions) is less than the amortized cost basis of the security. Changes in prepayment assumptions alone are not considered to result in a credit loss.

When determining if a credit loss exists, the Firm considers relevant information, including:

- the length of time and the extent to which the fair value has been less than the amortized cost basis;
- adverse conditions specifically related to the security, its industry or geographic area;
- changes in the financial condition of the issuer of the security, the presence of explicit or implicit guarantees of repayment by the U.S. Government for U.S. Government and Agency securities or, in the case of an asset-backed debt security, changes in the financial condition of the underlying loan obligors;
- the historical and implied volatility of the fair value of the security;
- the payment structure of the debt security and the likelihood of the issuer being able to make payments that increase in the future;

- failure of the issuer of the security to make scheduled interest or principal payments;
- the current rating and any changes to the rating of the security by a rating agency;
- recoveries or additional declines in fair value after the balance sheet date.

When estimating the present value of expected cash flows, information includes the remaining payment terms of the security, prepayment speeds, financial condition of the issuer(s), expected defaults and the value of any underlying collateral.

For AFS equity securities, the Firm considers various factors, including the intent and ability to hold the equity security for a period of time sufficient to allow for any anticipated recovery in market value, in evaluating whether an OTTI exists. If the equity security is considered other-than-temporarily impaired, the entire OTTI (*i.e.*, the difference between the fair value recorded in the balance sheet and the cost basis) will be recognized in the income statements.

Loans

The Firm accounts for loans based on the following categories: loans held for investment; loans held for sale; and loans at fair value.

Loans Held for Investment

Loans held for investment are reported at outstanding principal adjusted for any charge-offs, the allowance for loan losses, any unamortized deferred fees or costs for originated loans, and any unamortized premiums or discounts for purchased loans.

Interest Income. Interest income on performing loans held for investment is accrued and recognized as interest income at the contractual rate of interest. Purchase price discounts or premiums, as well as net deferred loan fees or costs, are amortized into interest income over the life of the loan to produce a level rate of return.

Allowance for Loan Losses. The allowance for loan losses represents an estimate of probable losses related to loans specifically identified for impairment in addition to the probable losses inherent in the held-for-investment loan portfolio.

The Firm utilizes the U.S. banking agencies' definition of criticized exposures, which consist of the Special Mention, Substandard, Doubtful and Loss categories as credit quality indicators. For further information on the credit quality indicators, see Note 7. Substandard loans are regularly reviewed for impairment. Factors considered by management when determining impairment include payment status, fair value of collateral, and probability of collecting scheduled principal and interest payments when due. The impairment analysis required depends on the nature and type of loans. Loans classified as Doubtful or Loss are considered impaired.

There are two components of the allowance for loan losses: the specific allowance component and the inherent allowance component.

The specific allowance component of the allowance for loan losses is used to estimate probable losses for exposures that have been specifically identified for impairment analysis by the Firm and determined to be impaired. When a loan is specifically identified for impairment, the impairment is measured based on the present value of expected future cash flows discounted at the loan's effective interest rate or the observable market price of the loan or the fair value of the collateral if the loan is collateral dependent. A loan is collateral dependent if the repayment of the loan is expected to be provided solely by the sale or operation of the underlying collateral. If the present value of the expected future cash flows (or alternatively, the observable market price of the loan or the fair value of the collateral) is less than the recorded investment in the loan, then the Firm recognizes an allowance and a charge to the provision for loan losses within Other revenues.

The inherent allowance component of the allowance for loan losses represents an estimate of the probable losses inherent in the loan portfolio and includes loans that have not been identified as impaired. The Firm maintains methodologies by loan product for calculating an allowance for loan losses that estimates the inherent losses in the loan portfolio. Generally, inherent losses in the portfolio for non-impaired loans are estimated using statistical analysis and judgment regarding the exposure at default, the probability of default and the loss given default.

Qualitative and environmental factors such as economic and business conditions, nature and volume of the portfolio, and lending terms and volume and severity of past due loans may also be considered in the calculations. The allowance for loan losses is maintained at a level to ensure that it is reasonably likely to adequately absorb the estimated probable losses inherent in the portfolio. When the Firm recognizes an allowance, there is also a charge to the provision for loan losses within Other revenues.

Troubled Debt Restructurings. The Firm may modify the terms of certain loans for economic or legal reasons related to a borrower's financial difficulties by granting one or more concessions that the Firm would not otherwise consider. Such modifications are accounted for and reported as a TDR. A loan that has been modified in a TDR is generally considered to be impaired and is evaluated for the extent of impairment using the Firm's specific allowance methodology. TDRs are also generally classified as nonaccrual and may be returned to accrual status only after considering the borrower's sustained repayment performance for a reasonable period.

Nonaccrual Loans. The Firm places loans on nonaccrual status if principal or interest is past due for a period of 90 days or more or payment of principal or interest is in doubt unless the obligation is well-secured and in the process of collection. A loan is considered past due when a payment due according to the contractual terms of the loan agreement has not been remitted by the borrower. Substandard loans, if identified as impaired, are categorized as nonaccrual, as are loans classified as Doubtful or Loss.

Payments received on nonaccrual loans held for investment are applied to principal if there is doubt regarding the ultimate collectibility of principal. If collection of the principal of nonaccrual loans held for investment is not in doubt, interest income is realized on a cash basis. If neither principal nor interest collection is in doubt, loans are placed on accrual status and interest income is recognized using the effective interest method. Loans that are on nonaccrual status may not be restored to accrual status until all delinquent principal and/or interest has been brought current after a reasonable period of performance, typically a minimum of six months.

Charge-offs. The Firm charges off a loan in the period that it is deemed uncollectible and records a reduction in the allowance for loan losses and the balance of the loan. In general, any portion of the recorded investment in a collateral dependent loan (including any capitalized accrued interest, net deferred loan fees or costs, and unamortized premium or discount) in excess of the fair value of the collateral that can be identified as uncollectible, and is therefore deemed a confirmed loss, is charged off against the allowance for loan losses. In addition, for loan transfers from loans held for investment to loans held for sale, at the time of transfer any reduction in the loan value is reflected as a charge-off of the recorded investment, resulting in a new cost basis.

Lending Commitments. The Firm records the liability and related expense for the credit exposure related to commitments to fund loans that will be held for investment in a manner similar to outstanding loans discussed above. The analysis also incorporates a credit conversion factor, which is the expected utilization of the undrawn commitment. The liability is recorded in Other liabilities and accrued expenses in the balance sheets, and the expense is recorded in Other non-interest expenses in the income statements. For more information regarding loan commitments, standby letters of credit and financial guarantees, see Note 12.

Loans Held for Sale

Loans held for sale are measured at the lower of cost or fair value, with valuation changes recorded in Other revenues. The Firm determines the valuation allowance on an individual loan basis, except for residential mortgage loans for which the valuation allowance is determined at the loan product level. Any decreases in fair value below the initial carrying amount and any recoveries in fair value up to the initial carrying amount are recorded in Other revenues. Increases in fair value above initial carrying value are not recognized.

Interest income on loans held for sale is accrued and recognized based on the contractual rate of interest. Loan origination fees or costs and purchase price discounts or premiums are deferred as an adjustment to the loan's cost basis until the related loan is sold, and as such, are included in the periodic determination of the lower of cost or fair value adjustments and the gain or loss recognized at the time of sale.

Lending Commitments. Commitments to fund mortgage loans held for sale are derivatives and are reported in Trading assets or Trading liabilities in the balance sheets with an offset to Trading revenues in the income statements.

For commitments to fund non-mortgage loans the Firm records the liability and related expense for the fair value exposure below cost of such commitments in Other liabilities and accrued expenses in the balance sheets with an offset to Other revenues in the income statements.

Loans and lending commitments held for sale are subject to the nonaccrual policies described above in the Loans Held for Investment—Nonaccrual loans section. Because loans and lending commitments held for sale are recognized at the lower of cost or fair value, the allowance for loan losses and charge-off policies does not apply to these loans.

Loans at Fair Value

Loans for which the fair value option is elected are carried at fair value, with changes in fair value recognized in earnings. Loans carried at fair value are not evaluated for purposes of recording an allowance for loan losses. For further information on loans carried at fair value and classified as Trading assets and Trading liabilities, see Note 3.

Lending Commitments. The Firm records the liability and related expense for the fair value exposure related to commitments to fund loans that will be measured at fair value. The liability is recorded in Trading liabilities in the balance sheets, and the expense is recorded in Trading revenues in the income statements.

Loans and lending commitments at fair value are subject to the nonaccrual policies described above in the Loans Held for Investment—Nonaccrual loans section. Because such loans and lending commitments are reported at fair value, the allowance for loan losses and charge-off policies do not apply to these loans.

For further information on loans, see Note 7.

Transfers of Financial Assets

Transfers of financial assets are accounted for as sales when the Firm has relinquished control over the transferred assets. Any related gain or loss on sale is recorded in Net revenues. Transfers that are not accounted for as sales are treated as a collateralized financing, in certain cases referred to as "failed sales." Securities borrowed or purchased under agreements to resell and securities loaned or sold under agreements to repurchase are treated as collateralized financings (see Note 6).

Securities purchased under agreements to resell ("reverse repurchase agreements") and Securities sold under agreements to repurchase ("repurchase agreements") are carried in the balance sheets at the amount of cash paid or received, plus accrued interest, except for certain repurchase agreements for which the Firm has elected the fair value option (see Note 3). Where appropriate, repurchase agreements and reverse repurchase agreements with the same counterparty are reported on a net basis. Securities borrowed and securities loaned are recorded at the amount of cash collateral advanced or received.

In instances where the Firm is the lender in securities-for-securities transactions and is permitted to sell or repledge these securities, the fair value of the collateral received is reported in Trading assets and the related obligation to return the collateral is reported in Trading liabilities in the balance sheets. Securities-for-securities transactions where the Firm is the borrower are not included in the balance sheets.

Premises, Equipment and Software Costs

Premises, equipment and software costs consist of buildings, leasehold improvements, furniture, fixtures, computer and communications equipment, power generation assets, terminals, pipelines and software (externally purchased and developed for internal use). Premises, equipment and software costs are stated at cost less accumulated depreciation and amortization and are included in Other assets in the balance sheets. Depreciation and amortization are provided by the straight-line method over the estimated useful life of the asset.

Estimated Useful Lives of Assets

in years	**Estimated Useful Life**
Buildings	39
Leasehold improvements—Building	term of lease to 25
Leasehold improvements—Other	term of lease to 15
Furniture and fixtures	7
Computer and communications equipment	3 to 9
Power generation assets	15 to 29
Terminals, pipelines and equipment	3 to 30
Software costs	2 to 10

Premises, equipment and software costs are tested for impairment whenever events or changes in circumstances suggest that an asset's carrying value may not be fully recoverable.

Goodwill and Intangible Assets

The Firm tests goodwill for impairment on an annual basis and on an interim basis when certain events or circumstances exist. The Firm tests goodwill for impairment at the reporting unit level, which is generally at the level of or one level below its business segments. For both the annual and interim tests, the Firm has the option to either (i) perform a *quantitative* impairment test or (ii) first perform a *qualitative* assessment to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount, in which case the quantitative test would be performed.

When performing a *quantitative* impairment test, the Firm compares the fair value of a reporting unit with its carrying amount, including goodwill. If the fair value of the reporting unit is less than its carrying amount, the goodwill impairment loss is equal to the excess of the carrying value over the fair value, limited to the carrying amount of goodwill allocated to that reporting unit.

The estimated fair values of the reporting units are derived based on valuation techniques the Firm believes market participants would use for each respective reporting unit. The estimated fair values are generally determined by utilizing a discounted cash flow methodology or methodologies that incorporate price-to-book and price-to-earnings multiples of certain comparable companies.

Intangible assets are amortized over their estimated useful lives and are reviewed for impairment on an interim basis when impairment indicators are present. Impairment losses are recorded within Other expenses in the income statements.

Earnings per Common Share

Basic EPS is computed by dividing earnings available to Morgan Stanley common shareholders by the weighted average number of common shares outstanding for the period. Earnings available to Morgan Stanley common shareholders represents net income applicable to Morgan Stanley reduced by preferred stock dividends. Common shares outstanding include common stock and vested RSUs where recipients have satisfied either the explicit vesting terms or retirement-eligibility requirements. Diluted EPS reflects the assumed conversion of all dilutive securities.

Share-based awards that pay dividend equivalents subject to vesting are included in diluted shares outstanding (if dilutive) under the treasury stock method.

The Firm has granted PSUs that vest and convert to shares of common stock only if predetermined performance and market goals are satisfied. Since the issuance of the shares is contingent upon the satisfaction of certain conditions, the PSUs are included in diluted EPS based on the number of shares (if any) that would be issuable if the end of the reporting period was the end of the contingency period.

For the calculation of basic and diluted EPS, see Note 16.

Deferred Compensation

Stock-Based Compensation

The Firm measures compensation expense for stock-based awards at fair value. The Firm determines the fair value of RSUs (including PSUs with non-market performance conditions) based on the grant-date fair value of its common stock, measured as the volume-weighted average price on the date of grant. PSUs that contain market-based conditions are valued using a Monte Carlo valuation model.

Compensation expense is recognized over the relevant vesting period for each separately vesting portion of the award. Compensation expense for awards with performance conditions is recognized based on the probable outcome of the performance condition at each reporting date. Compensation expense for awards with market-based conditions is recognized irrespective of the probability of the market condition being achieved and is not reversed if the market condition is not met. The Firm accounts for forfeitures as they occur.

Stock-based awards generally contain claw back and cancellation provisions. Certain awards provide the Firm discretion to claw back or cancel all or a portion of the award under specified circumstances. Compensation expense for those awards is adjusted for changes in the fair value of the Firm's common stock or the relevant model valuation, as appropriate, until conversion, exercise or expiration.

Employee Stock Trusts

In connection with certain stock-based compensation plans, the Firm maintains and utilizes employee stock trusts at its discretion. The assets of the employee stock trusts are consolidated and are therefore accounted for in a manner similar to treasury stock, where the shares of common stock outstanding are offset by an equal amount of common stock issued to employee stock trusts in the balance sheets.

The Firm uses the grant-date fair value of stock-based compensation as the basis for recognition of the assets in the employee stock trusts. Subsequent changes in the fair value are not recognized as the Firm's stock-based compensation plans must be settled by delivery of a fixed number of shares of the Firm's common stock.

Deferred Cash-Based Compensation

Compensation expense for deferred cash-based compensation plans is calculated based on the notional value of the award granted, adjusted for changes in the fair value of the referenced investments that employees select. Compensation expense is recognized over the relevant vesting period for each separately vesting portion of the award. Compensation expense for these awards is adjusted based on notional earnings of the referenced investments until distribution.

The Firm invests directly, as a principal, in investments or other financial instruments to economically hedge its obligations under its deferred cash-based compensation plans. Changes in the value of such investments made by the Firm are recorded in Trading revenues and Investments revenues. Although changes in compensation expense resulting from changes in the fair value of the referenced investments will generally be offset by changes in the fair value of investments made by the Firm, there is typically a timing difference between the immediate recognition of gains and losses on the Firm's investments and the deferred recognition of the related compensation expense over the vesting period.

Retirement-Eligible Employee Compensation

For year-end stock-based awards and deferred cash-based compensation awards anticipated to be granted to retirement-eligible employees under award terms that do not contain a future service requirement, the Firm accrues the estimated cost of the awards over the course of the calendar year preceding the grant date, which reflects the period over which the compensation is earned.

Income Taxes

Deferred tax assets and liabilities are recorded based upon the temporary differences between the financial statement and income tax bases of assets and liabilities using currently enacted tax rates in effect for the year in which the differences are expected to reverse. The effect of a change in tax rates on deferred tax assets and liabilities is recognized in income tax expense (benefit) in the period that includes the enactment date. Such effects are recorded in income tax expense (benefit) from continuing operations regardless of where deferred taxes were originally recorded.

The Firm recognizes net deferred tax assets to the extent that it believes these assets are more likely than not to be realized. In making such a determination, the Firm considers all available positive and negative evidence, including future reversals of existing taxable temporary differences, projected future taxable income, tax planning strategies and results of recent operations. When performing the assessment, the Firm considers all types of deferred tax assets in combination with each other, regardless of the origin of the underlying temporary difference. If a deferred tax asset is determined to be unrealizable, a valuation allowance is established. If the Firm subsequently determines that it would be able to realize deferred tax assets in excess of their net recorded amount, it would make an adjustment to the deferred tax asset valuation allowance, which would reduce the provision for income taxes.

The Firm recognizes tax expense associated with GILTI included in the Tax Cuts and Jobs Act ("Tax Act") as it is incurred as part of the current income taxes to be paid or refunded for the current period.

Uncertain tax positions are recorded on the basis of a two-step process, whereby (i) the Firm determines whether it is more likely than not that the tax positions will be sustained on the basis of the technical merits of the position and (ii) for those tax positions that meet this threshold, the Firm recognizes the largest amount of tax benefit that is more likely than not to be realized upon ultimate settlement with the related tax authority. Interest and penalties related to unrecognized tax benefits are classified as provision for income taxes.

Foreign Currencies

Assets and liabilities of operations with non-U.S. dollar functional currencies are translated at year-end rates of exchange. Gains or losses resulting from translating foreign currency financial statements, net of hedge gains or losses and related tax effects, are reflected in AOCI in the balance sheets. Gains or losses resulting from remeasurement of foreign currency transactions are included in net income, and amounts recognized in the income statement are translated at the rate of exchange on the respective date of recognition for each amount.

Accounting Updates Adopted

The Firm adopted the following accounting updates in 2018. See Note 15 for a summary of the Retained earnings impacts of these and other minor adoptions effective in 2018.

Revenues from Contracts with Customers

On January 1, 2018, the Firm adopted *Revenues from Contracts with Customers* using the modified retrospective method, which resulted in a net decrease to Retained earnings of $32 million, net of tax. Prior period amounts were not restated.

Our revised accounting policy in accordance with this adoption was effective January 1, 2018 and is included above.

The more significant differences to the accounting policy in place prior to adoption were (i) the presentation of certain costs related to underwriting and advisory activities in that such costs were recorded net of Investment Banking revenues versus the current practice of recording the costs in the relevant non-compensation expense line item (ii) the presentation of certain costs related to the selling and distribution of investment funds in that such costs were recorded net of Asset Management revenues versus the current practice of recording the costs in the relevant non-compensation expense line item (iii) the recognition of certain performance fees from fund management activities not in the form of carried interest that were recognized quarterly versus the current practice of deferring the revenues until the fees are not probable of a significant reversal, and (iv) the timing of the recognition of advisory fees in that such fees were recorded when realizable versus the current practice of recognizing the fees as advice is provided to the client, based on the estimated progress of work and when the revenue is not probable of a significant reversal.

Derivatives and Hedging–Targeted Improvements to Accounting for Hedging Activities

The Firm adopted this accounting update in the first quarter of 2018, with our revised accounting policy effective January 1, 2018. Upon adoption, the Firm recorded a cumulative catch-up adjustment, decreasing Retained earnings by $99 million, net of tax. This adjustment represents the cumulative effect of applying the new rules from the inception of certain fair value hedges of the interest rate risk of our borrowings, in particular the provision allowing only the benchmark rate component of coupon cash flows to be hedged.

The more significant differences to the accounting policy in place prior to adoption were: the provision permitting the hedged item in a fair value hedge of interest rate risk to be defined as including only the benchmark rate component of contractual coupon cash flows versus the previous requirement to include the total contractual coupon cash flows as the hedged item; and the allowance to hedge part of the contractual term of the hedged item by assuming maturity at the end of the hedge term, whereas previously it could not be assumed that the instrument matures at the end of the designated partial term.

Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income

This accounting update, which the Firm elected to early adopt as of January 1, 2018, allows companies to reclassify from AOCI to Retained earnings the stranded tax effects associated with enactment of the Tax Act on December 22, 2017. These stranded tax effects resulted from the requirement to reflect the total amount of the remeasurement of and other adjustments to deferred tax assets and liabilities in 2017 in income from continuing operations, regardless of whether the deferred taxes were originally recorded in AOCI. Accordingly, as of January 1, 2018, the Firm recorded a net increase to Retained earnings as a result of the reclassification of $443 million of such stranded tax effects previously recorded in AOCI, which were primarily the result of the remeasurement of deferred tax assets and liabilities associated with the change in tax rates.

Aside from the above treatment related to the Tax Act, the Firm releases stranded tax effects from AOCI into earnings once the related category of instruments or transactions giving rise to these effects no longer exists. For further detail on the tax effects reclassified, refer to Note 15 to the financial statements.

3. Fair Values

Fair Value Measurements

Valuation Techniques for Assets and Liabilities Measured at Fair Value on a Recurring Basis

Asset and Liability/Valuation Technique	Valuation Hierarchy Classification
U.S. Treasury and Agency Securities *U.S. Treasury Securities* • Fair value is determined using quoted market prices. *U.S. Agency Securities* • Non-callable agency-issued debt securities are generally valued using quoted market prices, and callable agency-issued debt securities are valued by benchmarking model-derived prices to quoted market prices and trade data for comparable instruments. • The fair value of agency mortgage pass-through pool securities is model-driven based on spreads of comparable to-be-announced securities. • CMOs are generally valued using quoted market prices and trade data adjusted by subsequent changes in related indices for comparable instruments.	• Level 1 • Level 1 - non-callable agency-issued debt securities • Generally Level 2 - callable agency-issued debt securities, agency mortgage pass-through pool securities and CMOs • Level 3 - in instances where the inputs are unobservable
Other Sovereign Government Obligations • Fair value is determined using quoted prices in active markets when available.	• Generally Level 1 • Level 2 - if the market is less active or prices are dispersed • Level 3 - in instances where the prices are unobservable
State and Municipal Securities • Fair value is determined using recently executed transactions, market price quotations or pricing models that factor in, where applicable, interest rates, bond or CDS spreads and volatility and/or volatility skew, adjusted for any basis difference between cash and derivative instruments.	• Generally Level 2 – if value based on observable market data for comparable instruments • Level 3 in instances where market data is not observable
RMBS, CMBS, ABS (collectively known as Mortgage- and Asset-backed securities (“MABS”)) • Mortgage- and asset-backed securities may be valued based on price or spread data obtained from observed transactions or independent external parties such as vendors or brokers. • When position-specific external price data are not observable, the fair value determination may require benchmarking to comparable instruments, and/or analyzing expected credit losses, default and recovery rates, and/or applying discounted cash flow techniques. When evaluating the comparable instruments for use in the valuation of each security, security collateral-specific attributes, including payment priority, credit enhancement levels, type of collateral, delinquency rates and loss severity, are considered. In addition, for RMBS borrowers, FICO scores and the level of documentation for the loan are considered. • Market standard models, such as Intex, Trepp or others, may be deployed to model the specific collateral composition and cash flow structure of each transaction. Key inputs to these models are market spreads, forecasted credit losses, and default and prepayment rates for each asset category. • Valuation levels of RMBS and CMBS indices are used as an additional data point for benchmarking purposes or to price outright index positions.	• Generally Level 2 - if value based on observable market data for comparable instruments • Level 3 - if external prices or significant spread inputs are unobservable, or if the comparability assessment involves significant subjectivity related to property type differences, cash flows, performance or other inputs
Corporate and other debt *Corporate Bonds* • Fair value is determined using recently executed transactions, market price quotations, bond spreads, CDS spreads, or at the money volatility and/or volatility skew obtained from independent external parties, such as vendors and brokers, adjusted for any basis difference between cash and derivative instruments. • The spread data used are for the same maturity as the bond. If the spread data do not reference the issuer, then data that reference a comparable issuer are used. When position-specific external price data are not observable, fair value is determined based on either benchmarking to comparable instruments or cash flow models with yield curves, bond or single-name CDS spreads and recovery rates as significant inputs. *CDO* • The Firm holds cash CDOs that typically reference a tranche of an underlying synthetic portfolio of single-name CDS spreads collateralized by corporate bonds (CLN) or cash portfolio of ABS/loans (“asset-backed CDOs”). • Credit correlation, a primary input used to determine the fair value of CLNs, is usually unobservable and derived using a benchmarking technique. Other model inputs such as credit spreads, including collateral spreads, and interest rates are typically observable. • Asset-backed CDOs are valued based on an evaluation of the market and model input parameters sourced from comparable instruments as indicated by market activity. Each asset-backed CDO position is evaluated independently taking into consideration available comparable market levels, underlying collateral performance and pricing, deal structures and liquidity.	• Generally Level 2 - if value based on observable market data for comparable instruments • Level 3 – in instances where prices or significant spread inputs are unobservable • Level 2 - when either comparable market transactions are observable, or credit correlation input is insignificant • Level 3 - when either comparable market transactions are unobservable, or the credit correlation input is significant

Asset and Liability/Valuation Technique	Valuation Hierarchy Classification
Loans and Lending Commitments • Fair value of corporate loans is determined using recently executed transactions, market price quotations (where observable), implied yields from comparable debt, market observable CDS spread levels obtained from independent external parties adjusted for any basis difference between cash and derivative instruments, along with proprietary valuation models and default recovery analysis where such transactions and quotations are unobservable. • Fair value of contingent corporate lending commitments is determined by using executed transactions on comparable loans and the anticipated market price based on pricing indications from syndicate banks and customers. The valuation of loans and lending commitments also takes into account fee income that is considered an attribute of the contract. • Fair value of mortgage loans is determined using observable prices based on transactional data or third-party pricing for comparable instruments, when available. • Where position-specific external prices are not observable, fair value is estimated based on benchmarking to prices and rates observed in the primary market for similar loan or borrower types or based on the present value of expected future cash flows using the Firm's best available estimates of the key assumptions, including forecasted credit losses, prepayment rates, forward yield curves and discount rates commensurate with the risks involved or a methodology that utilizes the capital structure and credit spreads of recent comparable securitization transactions. • Fair value of equity margin loans is determined by discounting future interest cash flows, net of estimated credit losses. The estimated credit losses are derived by benchmarking to market observable CDS spreads, implied debt yields or volatility metrics of the loan collateral.	• Level 2 - if value based on observable market data for comparable instruments • Level 3 - in instances where prices or significant spread inputs are unobservable
Corporate Equities • Exchange-traded equity securities are generally valued based on quoted prices from the exchange. To the extent these securities are actively traded, valuation adjustments are not applied. • Unlisted equity securities are generally valued based on an assessment of each security, considering rounds of financing and third-party transactions, discounted cash flow analyses and market-based information, including comparable transactions, trading multiples and changes in market outlook, among other factors. • Listed fund units are generally marked to the exchange-traded price if actively traded, or NAV if not. Unlisted fund units are generally marked to NAV.	• Level 1 - exchange-traded securities and fund units if actively traded • Level 2 - exchange-traded securities if not actively traded, or if undergoing a recent M&A event or corporate action • Level 3 - exchange-traded securities if not actively traded, or if undergoing an aged M&A event or corporate action
Derivative and Other Contracts *Listed Derivative Contracts* • Listed derivatives that are actively traded are valued based on quoted prices from the exchange. • Listed derivatives that are not actively traded are valued using the same techniques as those applied to OTC derivatives.	• Level 1 - listed derivatives that are actively traded • Level 2 - listed derivatives that are not actively traded
OTC Derivative Contracts • OTC derivative contracts include forward, swap and option contracts related to interest rates, foreign currencies, credit standing of reference entities, equity prices or commodity prices. • Depending on the product and the terms of the transaction, the fair value of OTC derivative products can be modeled using a series of techniques, including closed-form analytic formulas, such as the Black-Scholes option-pricing model, simulation models or a combination thereof. Many pricing models do not entail material subjectivity as the methodologies employed do not necessitate significant judgment since model inputs may be observed from actively quoted markets, as is the case for generic interest rate swaps, many equity, commodity and foreign currency option contracts, and certain CDS. In the case of more established derivative products, the pricing models used by the Firm are widely accepted by the financial services industry. • More complex OTC derivative products are typically less liquid and require more judgment in the implementation of the valuation technique since direct trading activity or quotes are unobservable. This includes certain types of interest rate derivatives with both volatility and correlation exposure, equity, commodity or foreign currency derivatives that are either longer-dated or include exposure to multiple underlyings, and credit derivatives, including CDS on certain mortgage- or asset-backed securities and basket CDS. Where required inputs are unobservable, relationships to observable data points, based on historical and/or implied observations, may be employed as a technique to estimate the model input values. For further information on the valuation techniques for OTC derivative products, see Note 2.	• Generally Level 2 - OTC derivative products valued using observable inputs, or where the unobservable input is not deemed significant • Level 3 - OTC derivative products for which the unobservable input is deemed significant

Asset and Liability/Valuation Technique	Valuation Hierarchy Classification
Investments • Investments include direct investments in equity securities, as well as various investment management funds, which include investments made in connection with certain employee deferred compensation plans. • For direct investments, initially, the transaction price is generally considered by the Firm as the exit price and is its best estimate of fair value. • After initial recognition, in determining the fair value of non-exchange-traded internally and externally managed funds, the Firm generally considers the NAV of the fund provided by the fund manager to be the best estimate of fair value. • For non-exchange-traded investments either held directly or held within internally managed funds, fair value after initial recognition is based on an assessment of each underlying investment, considering rounds of financing and third-party transactions, discounted cash flow analyses and market-based information, including comparable Firm transactions, trading multiples and changes in market outlook, among other factors. • Exchange-traded direct equity investments are generally valued based on quoted prices from the exchange.	• Level 1 - exchange-traded direct equity investments in an active market • Level 2 - non-exchange-traded direct equity investments and investments in various investment management funds if valued based on rounds of financing or third-party transactions; exchange-traded direct equity investments if not actively traded • Level 3 - non-exchange-traded direct equity investments and investments in various investment management funds where rounds of financing or third-party transactions are not available
Physical Commodities • The Firm trades various physical commodities, including natural gas and precious metals. • Fair value is determined using observable inputs, including broker quotations and published indices.	• Level 2
Investment Securities—AFS Securities • AFS securities are composed of U.S. government and agency securities (*e.g.*, U.S. Treasury securities, agency-issued debt, agency mortgage pass-through securities and CMOs), CMBS, FFELP student loan ABS, state and municipal securities, corporate bonds, and CLOs. For further information on the determination of fair value, refer to the corresponding asset/liability Valuation Technique described herein for the same instruments.	• For further information on the determination of valuation hierarchy classification, see the corresponding Valuation Hierarchy Classification described herein.
Deposits *Certificates of Deposit* • The Firm issues FDIC-insured certificates of deposit that pay either fixed coupons or that have repayment terms linked to the performance of debt or equity securities, indices or currencies. The fair value of these certificates of deposit is determined using valuation models that incorporate observable inputs referencing identical or comparable securities, including prices to which the deposits are linked, interest rate yield curves, option volatility and currency rates, equity prices, and the impact of the Firm's own credit spreads, adjusted for the impact of the FDIC insurance, which is based on vanilla deposit issuance rates.	• Generally Level 2 • Level 3 - in instances where the unobservable input is deemed significant
Securities Purchased under Agreements to Resell and Securities Sold under Agreements to Repurchase • Fair value is computed using a standard cash flow discounting methodology. • The inputs to the valuation include contractual cash flows and collateral funding spreads, which are the incremental spread over the OIS rate for a specific collateral rate (which refers to the rate applicable to a specific type of security pledged as collateral).	• Generally Level 2 • Level 3 - in instances where the unobservable inputs are deemed significant
Other Secured Financings • Other secured financings are composed of short-dated notes secured by Corporate equities, agreements to repurchase Physical commodities, the liability portion of failed sales of Loans and lending commitments and contracts which are not classified as OTC derivatives because they fail net investment criteria. For further information on the determination of fair value, refer to the corresponding asset/liability Valuation Technique described herein.	For further information on the determination of valuation hierarchy classification, see the corresponding Valuation Hierarchy Classification described herein.
Borrowings *Structured Notes* • The Firm issues structured notes which are primarily composed of: instruments whose payments and redemption values are linked to the performance of a specific index, a basket of stocks, a specific equity security, a commodity, a credit exposure or basket of credit exposures; and instruments with various interest-rate-related features including step-ups, step-downs, and zero coupons. • Fair value of structured notes is determined using valuation models for the derivative and debt portions of the notes. These models incorporate observable inputs referencing identical or comparable securities, including prices to which the notes are linked, interest rate yield curves, option volatility and currency rates, and commodity or equity prices. • Independent, external and traded prices for the notes are considered as well as the impact of the Firm's own credit spreads which are based on observed secondary bond market spreads.	• Generally Level 2 • Level 3 - in instances where the unobservable inputs are deemed significant

Assets and Liabilities Measured at Fair Value on a Recurring Basis

$ in millions	At December 31, 2018 Level 1	Level 2	Level 3	Netting[1]	Total
Assets at fair value					
Trading assets:					
U.S. Treasury and agency securities	**$ 38,767**	**$ 29,594**	**$ 54**	**$ —**	**$ 68,415**
Other sovereign government obligations	**28,395**	**5,529**	**17**	**—**	**33,941**
State and municipal securities	**—**	**3,161**	**148**	**—**	**3,309**
MABS	**—**	**2,154**	**354**	**—**	**2,508**
Loans and lending commitments[2]	**—**	**4,055**	**6,870**	**—**	**10,925**
Corporate and other debt	**—**	**18,129**	**1,076**	**—**	**19,205**
Corporate equities[3]	**93,626**	**522**	**95**	**—**	**94,243**
Derivative and other contracts:					
Interest rate	**2,793**	**155,027**	**1,045**	**—**	**158,865**
Credit	**—**	**5,707**	**421**	**—**	**6,128**
Foreign exchange	**62**	**63,023**	**161**	**—**	**63,246**
Equity	**1,256**	**45,596**	**1,022**	**—**	**47,874**
Commodity and other	**963**	**8,517**	**2,992**	**—**	**12,472**
Netting[1]	**(4,151)**	**(210,190)**	**(896)**	**(44,175)**	**(259,412)**
Total derivative and other contracts	**923**	**67,680**	**4,745**	**(44,175)**	**29,173**
Investments[4]	**412**	**293**	**757**	**—**	**1,462**
Physical commodities	**—**	**536**	**—**	**—**	**536**
Total trading assets[4]	**162,123**	**131,653**	**14,116**	**(44,175)**	**263,717**
Investment securities—AFS	**36,399**	**24,662**	**—**	**—**	**61,061**
Intangible assets	**—**	**5**	**—**	**—**	**5**
Total assets at fair value	**$ 198,522**	**$ 156,320**	**$ 14,116**	**$ (44,175)**	**$ 324,783**

$ in millions	At December 31, 2017 Level 1	Level 2	Level 3	Netting[1]	Total
Assets at fair value					
Trading assets:					
U.S. Treasury and agency securities	$ 22,077	$ 26,888	$ —	$ —	$ 48,965
Other sovereign government obligations	20,234	7,825	1	—	28,060
State and municipal securities	—	3,592	8	—	3,600
MABS	—	2,364	423	—	2,787
Loans and lending commitments[2]	—	4,791	5,945	—	10,736
Corporate and other debt	—	16,837	701	—	17,538
Corporate equities[3]	149,697	492	166	—	150,355
Derivative and other contracts:					
Interest rate	472	178,704	1,763	—	180,939
Credit	—	7,602	420	—	8,022
Foreign exchange	58	53,724	15	—	53,797
Equity	1,101	40,359	3,530	—	44,990
Commodity and other	1,126	5,390	4,147	—	10,663
Netting[1]	(2,088)	(216,764)	(1,575)	(47,171)	(267,598)
Total derivative and other contracts	669	69,015	8,300	(47,171)	30,813
Investments[4]	297	523	1,020	—	1,840
Physical commodities	—	1,024	—	—	1,024
Total trading assets[4]	192,974	133,351	16,564	(47,171)	295,718
Investment securities— AFS	27,522	27,681	—	—	55,203
Intangible assets	—	3	—	—	3
Total assets at fair value	$ 220,496	$ 161,035	$ 16,564	$ (47,171)	$ 350,924

$ in millions	At December 31, 2018 Level 1	Level 2	Level 3	Netting[1]	Total
Liabilities at fair value					
Deposits	**$ —**	**$ 415**	**$ 27**	**$ —**	**$ 442**
Trading liabilities:					
U.S. Treasury and agency securities	**11,272**	**543**	**—**	**—**	**11,815**
Other sovereign government obligations	**21,391**	**1,454**	**—**	**—**	**22,845**
Corporate and other debt	**—**	**8,550**	**1**	**—**	**8,551**
Corporate equities[3]	**56,064**	**199**	**15**	**—**	**56,278**
Derivative and other contracts:					
Interest rate	**2,927**	**142,746**	**427**	**—**	**146,100**
Credit	**—**	**5,772**	**381**	**—**	**6,153**
Foreign exchange	**41**	**63,379**	**86**	**—**	**63,506**
Equity	**1,042**	**47,091**	**2,507**	**—**	**50,640**
Commodity and other	**1,228**	**6,872**	**940**	**—**	**9,040**
Netting[1]	**(4,151)**	**(210,190)**	**(896)**	**(32,944)**	**(248,181)**
Total derivative and other contracts	**1,087**	**55,670**	**3,445**	**(32,944)**	**27,258**
Total trading liabilities	**89,814**	**66,416**	**3,461**	**(32,944)**	**126,747**
Securities sold under agreements to repurchase	**—**	**812**	**—**	**—**	**812**
Other secured financings	**—**	**5,037**	**208**	**—**	**5,245**
Borrowings	**—**	**47,378**	**3,806**	**—**	**51,184**
Total liabilities at fair value	**$ 89,814**	**$ 120,058**	**$ 7,502**	**$ (32,944)**	**$ 184,430**

$ in millions	At December 31, 2017 Level 1	Level 2	Level 3	Netting[1]	Total
Liabilities at fair value					
Deposits	$ —	$ 157	$ 47	$ —	$ 204
Trading liabilities:					
U.S. Treasury and agency securities	17,802	24	—	—	17,826
Other sovereign government obligations	24,857	2,016	—	—	26,873
Corporate and other debt	—	7,141	3	—	7,144
Corporate equities[3]	52,653	82	22	—	52,757
Derivative and other contracts:					
Interest rate	364	162,239	545	—	163,148
Credit	—	8,166	379	—	8,545
Foreign exchange	23	55,118	127	—	55,268
Equity	1,001	44,666	2,322	—	47,989
Commodity and other	1,032	5,156	2,701	—	8,889
Netting[1]	(2,088)	(216,764)	(1,575)	(36,717)	(257,144)
Total derivative and other contracts	332	58,581	4,499	(36,717)	26,695
Total trading liabilities	95,644	67,844	4,524	(36,717)	131,295
Securities sold under agreements to repurchase	—	650	150	—	800
Other secured financings	—	3,624	239	—	3,863
Borrowings	—	43,928	2,984	—	46,912
Total liabilities at fair value	$ 95,644	$ 116,203	$ 7,944	$ (36,717)	$ 183,074

MABS—Mortgage- and asset-backed securities

1. For positions with the same counterparty that cross over the levels of the fair value hierarchy, both counterparty netting and cash collateral netting are included in the column titled "Netting." Positions classified within the same level that are with the same counterparty are netted within that level. For further information on derivative instruments and hedging activities, see Note 4.
2. For a further breakdown by type, see the following Loans and Lending Commitments at Fair Value table.
3. For trading purposes, the Firm holds or sells short equity securities issued by entities in diverse industries and of varying sizes.
4. Amounts exclude certain investments that are measured based on NAV per share, which are not classified in the fair value hierarchy. For additional disclosure about such investments, see "Fund Interests Measured Based on Net Asset Value" herein.

Breakdown of Loans and Lending Commitments at Fair Value

$ in millions	At December 31, 2018	At December 31, 2017
Corporate	$ 9,171	$ 8,358
Residential real estate	1,153	799
Wholesale real estate	601	1,579
Total	**$ 10,925**	$ 10,736

Unsettled Fair Value of Futures Contracts[1]

$ in millions	At December 31, 2018	At December 31, 2017
Customer and other receivables, net	$ 615	$ 831

1. These contracts are primarily Level 1, actively traded, valued based on quoted prices from the exchange and are excluded from the previous recurring fair value tables.

Changes in Level 3 Assets and Liabilities Measured at Fair Value on a Recurring Basis

Rollforward of Level 3 Assets and Liabilities Measured at Fair Value on a Recurring Basis

$ in millions	2018	2017	2016
U.S. Treasury and agency securities			
Beginning balance	$ —	$ 74	$ —
Realized and unrealized gains (losses)	1	(1)	(4)
Purchases	53	—	72
Sales	—	(240)	—
Settlements	—	—	—
Net transfers	—	167	6
Ending balance	$ 54	$ —	$ 74
Unrealized gains (losses)	$ 1	$ —	$ (4)
Other sovereign government obligations			
Beginning balance	$ 1	$ 6	$ 4
Realized and unrealized gains (losses)	—	—	1
Purchases	41	—	4
Sales	(26)	(5)	(7)
Settlements	—	—	—
Net transfers	1	—	4
Ending balance	$ 17	$ 1	$ 6
Unrealized gains (losses)	$ —	$ —	$ —
State and municipal securities			
Beginning balance	$ 8	$ 250	$ 19
Realized and unrealized gains (losses)	—	3	—
Purchases	147	6	249
Sales	(9)	(83)	(18)
Settlements	—	—	—
Net transfers	2	(168)	—
Ending balance	$ 148	$ 8	$ 250
Unrealized gains (losses)	$ —	$ —	$ —
MABS			
Beginning balance	$ 423	$ 217	$ 438
Realized and unrealized gains (losses)	82	47	(69)
Purchases	177	289	82
Sales	(338)	(158)	(323)
Settlements	(17)	(37)	—
Net transfers	27	65	89
Ending balance	$ 354	$ 423	$ 217
Unrealized gains (losses)	$ (9)	$ (7)	$ (77)
Loans and lending commitments			
Beginning balance	$ 5,945	$ 5,122	$ 5,936
Realized and unrealized gains (losses)	(100)	182	(79)
Purchases[1]	5,746	3,616	2,261
Sales	(2,529)	(1,561)	(954)
Settlements	(2,281)	(1,463)	(1,863)
Net transfers	89	49	(179)
Ending balance	$ 6,870	$ 5,945	$ 5,122
Unrealized gains (losses)	$ (137)	$ 131	$ (80)
Corporate and other debt			
Beginning balance	$ 701	$ 475	$ 1,145
Realized and unrealized gains (losses)	106	82	40
Purchases	734	487	350
Sales	(251)	(420)	(708)
Settlements	(11)	(9)	—
Net transfers	(203)	86	(352)
Ending balance	$ 1,076	$ 701	$ 475
Unrealized gains (losses)	$ 70	$ 23	$ (38)
Corporate equities			
Beginning balance	$ 166	$ 446	$ 434
Realized and unrealized gains (losses)	29	(54)	(2)
Purchases	13	173	242
Sales	(161)	(632)	(154)
Settlements	—	—	—
Net transfers	48	233	(74)
Ending balance	$ 95	$ 166	$ 446
Unrealized gains (losses)	$ 17	$ (6)	$ —
Net derivatives: Interest rate[2]			
Beginning balance	$ 1,218	$ 420	$ 260
Realized and unrealized gains (losses)	111	322	529
Purchases	63	29	1
Issuances	(19)	(18)	—
Settlements	(172)	608	(83)
Net transfers	(583)	(143)	(287)
Ending balance	$ 618	$ 1,218	$ 420
Unrealized gains (losses)	$ 140	$ 341	$ 463
Net derivatives: Credit[2]			
Beginning balance	$ 41	$ (373)	$ (844)
Realized and unrealized gains (losses)	33	(43)	(176)
Purchases	13	—	—
Issuances	(95)	(1)	(4)
Settlements	56	455	623
Net transfers	(8)	3	28
Ending balance	$ 40	$ 41	$ (373)
Unrealized gains (losses)	$ 23	$ (18)	$ (167)

$ in millions	2018	2017	2016
Net derivatives: Foreign exchange[2]			
Beginning balance	$ (112)	$ (43)	$ 141
Realized and unrealized gains (losses)	179	(108)	(27)
Purchases	3	—	—
Issuances	(1)	(1)	—
Settlements	2	31	(220)
Net transfers	4	9	63
Ending balance	$ 75	$ (112)	$ (43)
Unrealized gains (losses)	$ 118	$ (89)	$ (23)
Net derivatives: Equity[2]			
Beginning balance	$ 1,208	$ 184	$ (2,031)
Realized and unrealized gains (losses)	305	136	539
Purchases	122	988	809
Issuances	(1,179)	(524)	(337)
Settlements	314	396	1,073
Net transfers[3]	(2,255)	28	131
Ending balance	$ (1,485)	$ 1,208	$ 184
Unrealized gains (losses)	$ 211	$ 159	$ 376
Net derivatives: Commodity and other[2]			
Beginning balance	$ 1,446	$ 1,600	$ 1,050
Realized and unrealized gains (losses)	500	515	544
Purchases	34	24	24
Issuances	(18)	(57)	(114)
Settlements	(81)	(343)	(44)
Net transfers	171	(293)	140
Ending balance	$ 2,052	$ 1,446	$ 1,600
Unrealized gains (losses)	$ 272	$ 20	$ 304
Investments			
Beginning balance	$ 1,020	$ 958	$ 707
Realized and unrealized gains (losses)	(25)	96	(32)
Purchases	149	102	398
Sales	(212)	(57)	(75)
Settlements	—	(78)	(59)
Net transfers	(175)	(1)	19
Ending balance	$ 757	$ 1,020	$ 958
Unrealized gains (losses)	$ (27)	$ 88	$ (50)
Deposits			
Beginning balance	$ 47	$ 42	$ 19
Realized and unrealized losses (gains)	(1)	3	—
Purchases	—	—	—
Issuances	9	12	23
Settlements	(2)	(3)	—
Net transfers	(26)	(7)	—
Ending balance	$ 27	$ 47	$ 42
Unrealized losses (gains)	$ (1)	$ 3	$ —
Trading liabilities[4]			
Beginning balance	$ 25	$ 71	$ 22
Realized and unrealized losses (gains)	(6)	(1)	(13)
Purchases	(18)	(139)	(109)
Sales	9	20	234
Settlements	—	—	—
Net transfers	6	74	(63)
Ending balance	$ 16	$ 25	$ 71
Unrealized losses (gains)	$ (7)	$ —	$ —

$ in millions	2018	2017	2016
Securities sold under agreements to repurchase			
Beginning balance	$ 150	$ 149	$ 151
Realized and unrealized losses (gains)	—	—	(2)
Purchases	—	—	—
Issuances	—	1	—
Settlements	—	—	—
Net transfers	(150)	—	—
Ending balance	$ —	$ 150	$ 149
Unrealized losses (gains)	$ —	$ —	$ (2)
Other secured financings			
Beginning balance	$ 239	$ 434	$ 461
Realized and unrealized losses (gains)	(39)	35	5
Purchases	—	—	—
Issuances	8	64	79
Settlements	(17)	(251)	(45)
Net transfers	17	(43)	(66)
Ending balance	$ 208	$ 239	$ 434
Unrealized losses (gains)	$ (39)	$ 28	$ 5
Borrowings			
Beginning balance	$ 2,984	$ 2,014	$ 1,988
Realized and unrealized losses (gains)	(385)	196	19
Purchases	—	—	—
Issuances	1,554	1,968	648
Settlements	(274)	(424)	(305)
Net transfers	(73)	(770)	(336)
Ending balance	$ 3,806	$ 2,984	$ 2,014
Unrealized losses (gains)	$ (379)	$ 173	$ 30

1. Loan originations are included within Purchases.
2. Net derivatives represent Trading assets—Derivative and other contracts, net of Trading liabilities—Derivative and other contracts. Amounts shown are presented before counterparty netting.
3. During 2018, the Firm transferred from Level 3 to Level 2 $2.4 billion of Equity Derivatives due to a reduction in the significance of the unobservable inputs relating to volatility.
4. Includes corporate and other debt and corporate equities. Excludes derivatives which are reflected within net derivatives.

Level 3 instruments may be hedged with instruments classified in Level 1 and Level 2. The realized and unrealized gains (losses) for assets and liabilities within the Level 3 category presented in the previous tables do not reflect the related realized and unrealized gains (losses) on hedging instruments that have been classified by the Firm within the Level 1 and/or Level 2 categories.

The unrealized gains (losses) during the period for assets and liabilities within the Level 3 category may include changes in fair value during the period that were attributable to both observable and unobservable inputs. Total realized and unrealized gains (losses) are primarily included in Trading revenues in the income statements.

Additionally, in the previous tables, consolidations of VIEs are included in Purchases and deconsolidations of VIEs are included in Settlements.

Significant Unobservable Inputs Used in Recurring and Nonrecurring Level 3 Fair Value Measurements

The following disclosures provide information on the valuation techniques, significant unobservable inputs, and their ranges and averages for each major category of assets and liabilities measured at fair value on a recurring and nonrecurring basis with a significant Level 3 balance. The level of aggregation and breadth of products cause the range of inputs to be wide and not evenly distributed across the inventory. Further, the range of unobservable inputs may differ across firms in the financial services industry because of diversity in the types of products included in each firm's inventory. There are no predictable relationships between multiple significant unobservable inputs attributable to a given valuation technique. A single amount is disclosed when there is no significant difference between the minimum, maximum and average.

Valuation Techniques and Sensitivity of Unobservable Inputs Used in Level 3 Fair Value Measurements

Recurring Fair Value Measurement

	Balance / Range (Average[1])	
$ in millions, except inputs	**At December 31, 2018**	At December 31, 2017
Assets at Fair Value		
U.S. Treasury and agency securities	**$ 54**	$ —
Comparable pricing:		
Bond price	**100 to 104 points (100 points)**	N/A
State and municipal securities	**$ 148**	$ 8
Comparable pricing:		
Bond price	**94 to 100 points (96 points)**	N/M
MABS	**$ 354**	$ 423
Comparable pricing:		
Bond price	**0 to 97 points (38 points)**	0 to 95 points (26 points)
Loans and lending commitments	**$ 6,870**	$ 5,945
Margin loan model:		
Discount rate	**1% to 7% (2%)**	0% to 3% (1%)
Volatility skew	**19% to 56% (28%)**	7% to 41% (22%)
Credit Spread	**14 to 90 bps (36 bps)**	N/M
Comparable pricing:		
Loan price	**60 to 101 points (95 points)**	55 to 102 points (95 points)
Corporate and other debt	**$ 1,076**	$ 701
Comparable pricing:		
Bond price	**12 to 100 points (72 points)**	3 to 134 points (59 points)
Discounted cash flow:		
Recovery rate	**20%**	6% to 36% (27%)
Discount rate	**15% to 21% (16%)**	7% to 20% (14%)
Option model:		
At the money volatility	**24% to 78% (50%)**	17% to 52% (52%)
Corporate equities	**$ 95**	$ 166
Comparable pricing:		
Equity price	**100%**	100%

	Balance / Range (Average[1])	
$ in millions, except inputs	**At December 31, 2018**	At December 31, 2017
Net derivative and other contracts:		
Interest rate	**$ 618**	$ 1,218
Option model:		
IR volatility skew	**22% to 95% (48% / 51%)**	31% to 97% (41% / 47%)
Inflation volatility	**23% to 65% (44% / 40%)**	23% to 63% (44% / 41%)
IR curve	**1%**	2%
Credit	**$ 40**	$ 41
Comparable pricing:		
Cash-synthetic basis	**8 to 9 points (9 points)**	12 to 13 points (12 points)
Bond price	**0 to 75 points (26 points)**	0 to 75 points (25 points)
Credit spread	**246 to 499 bps (380 bps)**	N/M
Funding spread	**47 to 98 bps (93 bps)**	N/M
Correlation model:		
Credit correlation	**36% to 69% (44%)**	38% to 100% (48%)
Foreign exchange[2]	**$ 75**	$ (112)
Option model:		
IR FX correlation	**53% to 56% (55% / 55%)**	54% to 57% (56% / 56%)
IR volatility skew	**22% to 95% (48% / 51%)**	31% to 97% (41% / 47%)
Contingency probability	**90% to 95% (93% / 95%)**	95% to 100% (96% /95%)
Equity[2]	**$ (1,485)**	$ 1,208
Option model:		
At the money volatility	**17% to 63% (38%)**	7% to 54% (32%)
Volatility skew	**-2% to 0% (-1%)**	-5% to 0% (-1%)
Equity correlation	**5% to 96% (71%)**	5% to 99% (76%)
FX correlation	**-60% to 55% (-26%)**	-55% to 40% (36%)
IR correlation	**-7% to 45% (15% / 12%)**	-7% to 49% (18% / 20%)
Commodity and other	**$ 2,054**	$ 1,446
Option model:		
Forward power price	**$3 to $185 ($31) per MWh**	$4 to $102 ($31) per MWh
Commodity volatility	**7% to 187% (17%)**	7% to 205% (17%)
Cross-commodity correlation	**5% to 99% (93%)**	5% to 99% (92%)
Investments	**$ 757**	$ 1,020
Discounted cash flow:		
WACC	**9% to 15% (10%)**	8% to 15% (9%)
Exit multiple	**7 to 10 times (10 times)**	8 to 11 times (10 times)
Market approach:		
EBITDA multiple	**6 to 24 times (12 times)**	6 to 25 times (11 times)
Comparable pricing:		
Equity price	**75% to 100% (96%)**	45% to 100% (92%)
Liabilities at Fair Value		
Other secured financings	**$ 208**	$ 239
Discounted cash flow:		
Funding spread	**103 to 193 bps (148 bps)**	39 to 76 bps (57 bps)
Option model:		
Volatility skew	**-1%**	-1%
At the money volatility	**10% to 40% (25%)**	10% to 40% (26%)
Borrowings	**$ 3,806**	$ 2,984
Option model:		
At the money volatility	**5% to 35% (22%)**	5% to 35% (22%)
Volatility skew	**-2% to 0% (0%)**	-2% to 0% (0%)
Equity correlation	**45% to 98% (85%)**	39% to 95% (86%)
Equity - FX correlation	**-75% to 50% (-27%)**	-55% to 10% (-18%)
IR Correlation	**58% to 97% (85% / 91%)**	N/M
IR FX Correlation	**28% to 58% (44% / 44%)**	N/M

$ in millions, except inputs	Balance / Range (Average[1]) At December 31, 2018	At December 31, 2017
Nonrecurring Fair Value Measurement		
Loans	**$ 1,380**	$ 924
Corporate loan model:		
Credit spread	**97 to 434 bps (181 bps)**	93 to 563 bps (239 bps)
Expected recovery:		
Asset coverage	**N/M**	95% to 99% (95%)
Warehouse model:		
Credit spread	**223 to 313 bps (247 bps)**	N/M

Points—Percentage of par
IR—Interest rate
FX—Foreign exchange
1. Amounts represent weighted averages except where simple averages and the median of the inputs are more relevant.
2. Includes derivative contracts with multiple risks (*i.e.*, hybrid products).

Significant Unobservable Inputs—Description and Sensitivity

An increase (decrease) to the following inputs would generally result in a higher (lower) fair value.

- Asset coverage: The ratio of a borrower's underlying pledged assets less applicable costs relative to their outstanding debt (while considering the loan's principal and the seniority and security of the loan commitment).

- Comparable bond or loan price: A pricing input used when prices for the identical instrument are not available. Significant subjectivity may be involved when fair value is determined using pricing data available for comparable instruments. Valuation using comparable instruments can be done by calculating an implied yield (or spread over a liquid benchmark) from the price of a comparable bond or loan, then adjusting that yield (or spread) to derive a value for the bond or loan. The adjustment to yield (or spread) should account for relevant differences in the bonds or loans such as maturity or credit quality. Alternatively, a price-to-price basis can be assumed between the comparable instrument and the bond or loan being valued in order to establish the value of the bond or loan.

- Comparable equity price: A price derived from equity raises, share buybacks and external bid levels, etc. A discount or premium may be included in the fair value estimate.

- Contingency probability: Probability associated with the realization of an underlying event upon which the value of an asset is contingent.

- EBITDA multiple / Exit multiple: The ratio of Enterprise Value to EBITDA, where Enterprise Value is the aggregate value of equity and debt minus cash and cash equivalents. The EBITDA multiple reflects the value of the company in terms of its full-year EBITDA, whereas the exit multiple reflects the value of the company in terms of its full-year expected EBITDA at exit. Either multiple allows comparison between companies from an operational perspective as the effect of capital structure, taxation and depreciation/amortization is excluded.

- Recovery rate: Amount expressed as a percentage of par that is expected to be received when a credit event occurs.

An increase (decrease) to the following inputs would generally result in a lower (higher) fair value.

- Cash-synthetic basis: The measure of the price differential between cash financial instruments and their synthetic derivative-based equivalents. The range disclosed in the table above signifies the number of points by which the synthetic bond equivalent price is higher than the quoted price of the underlying cash bonds.

- Credit spread: The credit spread reflects the additional net yield an investor can earn from a security with more credit risk relative to one with less credit risk. The credit spread of a particular security is often quoted in relation to the yield on a credit risk-free benchmark security or reference rate, typically either U.S. Treasury or LIBOR.

- Funding spread: The cost of borrowing defined as the incremental spread over the OIS rate for a specific collateral rate (which refers to the rate applicable to a specific type of security pledged as collateral).

- WACC: WACC theoretically represents the required rate of return to debt and equity investors. The WACC implied by the current value of equity in a discounted cash flow model. The model assumes that the cash flow assumptions, including projections, are fully reflected in the current equity value, while the debt to equity ratio is held constant.

An increase (decrease) to the following inputs would generally result in an impact to the fair value, but the magnitude and direction of the impact would depend on whether the Firm is long or short the exposure.

- Correlation: A pricing input where the payoff is driven by more than one underlying risk. Correlation is a measure of the relationship between the movement of two variables (*i.e.*, how the change in one variable influences a change in the other variable).

- Interest rate curve: The term structure of interest rates (relationship between interest rates and the time to maturity) and a market's measure of future interest rates at the time of observation. An interest rate curve is used to set interest rate and foreign exchange derivative cash flows and is a pricing input used in the discounting of any OTC derivative cash flow.

- Volatility: The measure of variability in possible returns for an instrument given how much that instrument changes in value over time. Volatility is a pricing input for options and, generally, the lower the volatility, the less risky the option. The level of volatility used in the valuation of a particular option depends on a number of factors, including the nature of the risk underlying that option, the tenor and the strike price of the option.

- Volatility skew: The measure of the difference in implied volatility for options with identical underliers and expiry dates but with different strikes.

Fund Interests Measured Based on Net Asset Value

	At December 31, 2018		At December 31, 2017	
$ in millions	Carrying Value	Commitment	Carrying Value	Commitment
Private equity	**$ 1,374**	**$ 316**	$ 1,674	$ 308
Real estate	**1,105**	**161**	800	183
Hedge[1]	**103**	**4**	90	4
Total	**$ 2,582**	**$ 481**	$ 2,564	$ 495

1. Investments in hedge funds may be subject to initial period lock-up or gate provisions, which restrict an investor from withdrawing from the fund during a certain initial period or restrict the redemption amount on any redemption date, respectively.

Amounts in the previous table represent the Firm's carrying value of general and limited partnership interests in fund investments, as well as any related performance fees in the form of carried interest. The carrying amounts are measured based on the NAV of the fund taking into account the distribution terms applicable to the interest held. This same measurement applies whether the fund investments are accounted for under the equity method or fair value.

Private Equity. Funds that pursue multiple strategies, including leveraged buyouts, venture capital, infrastructure growth capital, distressed investments and mezzanine capital. In addition, the funds may be structured with a focus on specific domestic or foreign geographic regions.

Real Estate. Funds that invest in real estate assets such as commercial office buildings, retail properties, multi-family residential properties, developments or hotels. In addition, the funds may be structured with a focus on specific domestic or foreign geographic regions.

Investments in private equity and real estate funds generally are not redeemable due to the closed-ended nature of these funds. Instead, distributions from each fund will be received as the underlying investments of the funds are disposed and monetized.

Hedge. Funds that pursue various investment strategies, including long-short equity, fixed income/credit, event-driven and multi-strategy.

See Note 12 for information regarding general partner guarantees, which include potential obligations to return performance fee distributions previously received. See Note 21 for information regarding related performance fees at risk of reversal, including performance fees in the form of carried interest.

Nonredeemable Funds by Contractual Maturity

	Carrying Value at December 31, 2018	
$ in millions	Private Equity	Real Estate
Less than 5 years	**$ 707**	**$ 618**
5-10 years	**642**	**440**
Over 10 years	**25**	**47**
Total	**$ 1,374**	**$ 1,105**

Fair Value Option

The Firm elected the fair value option for certain eligible instruments that are risk managed on a fair value basis to mitigate income statement volatility caused by measurement basis differences between the elected instruments and their associated risk management transactions or to eliminate complexities of applying certain accounting models.

Borrowings Measured at Fair Value on a Recurring Basis

$ in millions	**At December 31, 2018**	At December 31, 2017
Business Unit Responsible for Risk Management		
Equity	**$ 24,494**	$ 25,903
Interest rates	**22,343**	19,230
Commodities	**2,735**	298
Credit	**856**	815
Foreign exchange	**756**	666
Total	**$ 51,184**	$ 46,912

Earnings Impact of Borrowings under the Fair Value Option

$ in millions	**2018**	2017	2016
Trading revenues	**$ 2,679**	$ (4,507)	$ (707)
Interest expense	**(321)**	(443)	(483)
Net revenues[1]	**$ 2,358**	$ (4,950)	$ (1,190)

1. Amounts do not reflect any gains or losses on related hedging instruments.

Gains (losses) are mainly attributable to changes in foreign exchange rates, or interest rates or movements in the reference price or index.

Gains (Losses) Due to Changes in Instrument-Specific Credit Risk

$ in millions	Trading Revenues	OCI
2018		
Borrowings	**$ (24)**	**$ 1,962**
Loans and other debt[1]	**165**	**—**
Lending commitments[2]	**(3)**	**—**
Other	**(32)**	**41**
2017		
Borrowings	$ (12)	$ (903)
Loans and other debt[1]	159	—
Lending commitments[2]	(2)	—
Other	—	(7)
2016		
Borrowings	$ 31	$ (460)
Loans and other debt[1]	(71)	—
Lending commitments[2]	4	—
Other	—	—

$ in millions	**At December 31, 2018**	At December 31, 2017
Cumulative pre-tax DVA gain (loss) recognized in AOCI	**$ 172**	$ (1,831)

1. Loans and other debt instrument-specific credit gains (losses) were determined by excluding the non-credit components of gains and losses.
2. Gains (losses) on lending commitments were generally determined based on the difference between estimated expected client yields and contractual yields at each respective period-end.

Excess of Contractual Principal Amount Over Fair Value

$ in millions	**At December 31, 2018**	At December 31, 2017
Loans and other debt[1]	**$ 13,094**	$ 13,481
Loans 90 or more days past due and/or on nonaccrual status[1]	**10,831**	11,253
Borrowings[2]	**2,657**	71

1. The majority of the difference between principal and fair value amounts for loans and other debt relates to distressed debt positions purchased at amounts well below par.
2. Borrowings in this table do not include structured notes where the repayment of the initial principal amount fluctuates based on changes in a reference price or index.

The previous tables exclude non-recourse debt from consolidated VIEs, liabilities related to failed sales of financial assets, pledged commodities and other liabilities that have specified assets attributable to them.

Fair Value Loans on Nonaccrual Status

$ in millions	**At December 31, 2018**	At December 31, 2017
Nonaccrual loans	**$ 1,497**	$ 1,240
Nonaccrual loans 90 or more days past due	**$ 812**	$ 779

Assets and Liabilities Measured at Fair Value on a Nonrecurring Basis

	At December 31, 2018		
	Fair Value		
$ in millions	Level 2	Level 3[1]	Total
Assets			
Loans	**$ 2,307**	**$ 1,380**	**$ 3,687**
Other assets—Other investments	**14**	**100**	**114**
Other assets—Premises, equipment and software	**—**	**—**	**—**
Total	**$ 2,321**	**$ 1,480**	**$ 3,801**
Liabilities			
Other liabilities and accrued expenses—Lending commitments	**$ 292**	**$ 65**	**$ 357**
Total	**$ 292**	**$ 65**	**$ 357**

	At December 31, 2017		
	Fair Value		
$ in millions	Level 2	Level 3[1]	Total
Assets			
Loans	$ 1,394	$ 924	$ 2,318
Other assets—Other investments	—	144	144
Other assets—Premises, equipment and software	—	—	—
Total	$ 1,394	$ 1,068	$ 2,462
Liabilities			
Other liabilities and accrued expenses—Lending commitments	$ 158	$ 38	$ 196
Total	$ 158	$ 38	$ 196

1. For significant Level 3 balances, refer to “Significant Unobservable Inputs Used in Recurring and Nonrecurring Level 3 Fair Value Measurements” section herein for details of the significant unobservable inputs used for nonrecurring fair value measurement.

Gains (Losses) from Nonrecurring Fair Value Remeasurements[1]

$ in millions	2018	2017	2016
Assets			
Loans[2]	**$ (68)**	$ 18	$ 40
Other assets—Other investments[3]	**(56)**	(66)	(52)
Other assets—Premises, equipment and software	**(46)**	(25)	(76)
Intangible assets	**—**	—	(2)
Total	**$ (170)**	$ (73)	$ (90)
Liabilities			
Other liabilities and accrued expenses—Lending commitments[2]	**$ (48)**	$ 75	$ 121
Total	**$ (48)**	$ 75	$ 121

1. Gains and losses for Loans and Other assets—Other investments are classified in Other revenues. For other items, gains and losses are recorded in Other revenues if the item is held for sale; otherwise they are recorded in Other expenses.
2. Nonrecurring changes in the fair value of loans and lending commitments were calculated as follows: for the held-for-investment category, based on the value of the underlying collateral; and for the held-for-sale category, based on recently executed transactions, market price quotations, valuation models that incorporate market observable inputs where possible, such as comparable loan or debt prices and CDS spread levels adjusted for any basis difference between cash and derivative instruments, or default recovery analysis where such transactions and quotations are unobservable.
3. Losses related to Other assets—Other investments were determined using techniques that included discounted cash flow models, methodologies that incorporate multiples of certain comparable companies and recently executed transactions.

Financial Instruments Not Measured at Fair Value

	At December 31, 2018				
		Fair Value			
$ in millions	Carrying Value	Level 1	Level 2	Level 3	Total
Financial assets					
Cash and cash equivalents:					
Cash and due from banks	**$ 30,541**	**$30,541**	**$ —**	**$ —**	**$ 30,541**
Interest bearing deposits with banks	**21,299**	**21,299**	**—**	**—**	**21,299**
Restricted cash	**35,356**	**35,356**	**—**	**—**	**35,356**
Investment securities—HTM	**30,771**	**17,473**	**12,018**	**474**	**29,965**
Securities purchased under agreements to resell	**98,522**	**—**	**97,611**	**866**	**98,477**
Securities borrowed	**116,313**	**—**	**116,312**	**—**	**116,312**
Customer and other receivables[1]	**47,972**	**—**	**44,620**	**3,219**	**47,839**
Loans[2]	**115,579**	**—**	**25,604**	**90,121**	**115,725**
Other assets	**461**	**—**	**461**	**—**	**461**
Financial liabilities					
Deposits	**$ 187,378**	**$ —**	**$187,372**	**$ —**	**$187,372**
Securities sold under agreements to repurchase	**48,947**	**—**	**48,385**	**525**	**48,910**
Securities loaned	**11,908**	**—**	**11,906**	**—**	**11,906**
Other secured financings	**4,221**	**—**	**3,233**	**994**	**4,227**
Customer and other payables[1]	**176,561**	**—**	**176,561**	**—**	**176,561**
Borrowings	**138,478**	**—**	**140,085**	**30**	**140,115**
	Commitment Amount				
Lending commitments[3]	**$ 104,844**	**$ —**	**$ 1,249**	**$ 321**	**$ 1,570**

	At December 31, 2017				
	Carrying Value	Fair Value			
$ in millions		Level 1	Level 2	Level 3	Total
Financial assets					
Cash and cash equivalents:					
Cash and due from banks	$ 24,816	$24,816	$ —	$ —	$ 24,816
Interest bearing deposits with banks	21,348	21,348	—	—	21,348
Restricted cash	34,231	34,231	—	—	34,231
Investment securities—HTM	23,599	11,119	11,673	289	23,081
Securities purchased under agreements to resell	84,258	—	78,239	5,978	84,217
Securities borrowed	124,010	—	124,018	1	124,019
Customer and other receivables[1]	51,269	—	47,159	3,984	51,143
Loans[2]	104,126	—	21,290	82,928	104,218
Other assets	433	—	433	—	433
Financial liabilities					
Deposits	$ 159,232	$ —	$ 159,232	$ —	$159,232
Securities sold under agreements to repurchase	55,624	—	51,752	3,867	55,619
Securities loaned	13,592	—	13,191	401	13,592
Other secured financings	7,408	—	5,987	1,431	7,418
Customer and other payables[1]	188,464	—	188,464	—	188,464
Borrowings	145,670	—	151,692	30	151,722
	Commitment Amount				
Lending commitments[3]	$ 100,151	$ —	$ 620	$ 174	$ 794

1. Accrued interest and dividend receivables and payables where carrying value approximates fair value have been excluded.
2. Amounts include loans measured at fair value on a nonrecurring basis.
3. Represents Lending Commitments accounted for as Held for Investment and Held for Sale. For a further discussion on lending commitments, see Note 12.

The previous tables exclude certain financial instruments such as equity method investments and all non-financial assets and liabilities such as the value of the long-term relationships with the Firm's deposit customers.

4. Derivative Instruments and Hedging Activities

The Firm trades and makes markets globally in listed futures, OTC swaps, forwards, options and other derivatives referencing, among other things, interest rates, equities, currencies, investment grade and non-investment grade corporate credits, loans, bonds, U.S. and other sovereign securities, emerging market bonds and loans, credit indices, ABS indices, property indices, mortgage-related and other ABS, and real estate loan products. The Firm uses these instruments for market-making, foreign currency exposure management, and asset and liability management.

The Firm manages its market-making positions by employing a variety of risk mitigation strategies. These strategies include diversification of risk exposures and hedging. Hedging activities consist of the purchase or sale of positions in related securities and financial instruments, including a variety of derivative products (*e.g.*, futures, forwards, swaps and options). The Firm manages the market risk associated with its market-making activities on a Firm-wide basis, on a worldwide trading division level and on an individual product basis.

Derivative Fair Values

At December 31, 2018

	Assets			
$ in millions	Bilateral OTC	Cleared OTC	Exchange-Traded	Total
Designated as accounting hedges				
Interest rate contracts	**$ 512**	**$ 1**	**$ —**	**$ 513**
Foreign exchange contracts	**27**	**8**	**—**	**35**
Total	**539**	**9**	**—**	**548**
Not designated as accounting hedges				
Interest rate contracts	**153,768**	**3,887**	**697**	**158,352**
Credit contracts	**4,630**	**1,498**	**—**	**6,128**
Foreign exchange contracts	**61,846**	**1,310**	**55**	**63,211**
Equity contracts	**24,590**	**—**	**23,284**	**47,874**
Commodity and other contracts	**10,538**	**—**	**1,934**	**12,472**
Total	**255,372**	**6,695**	**25,970**	**288,037**
Total gross derivatives	**$ 255,911**	**$ 6,704**	**$ 25,970**	**$ 288,585**
Amounts offset				
Counterparty netting	**(190,220)**	**(5,260)**	**(24,548)**	**(220,028)**
Cash collateral netting	**(38,204)**	**(1,180)**	**—**	**(39,384)**
Total in Trading assets	**$ 27,487**	**$ 264**	**$ 1,422**	**$ 29,173**
Amounts not offset[1]				
Financial instruments collateral	**(12,467)**	**—**	**—**	**(12,467)**
Other cash collateral	**(31)**	**—**	**—**	**(31)**
Net amounts	**$ 14,989**	**$ 264**	**$ 1,422**	**$ 16,675**
Net amounts for which master netting or collateral agreements are not in place or may not be legally enforceable				**$ 2,206**

	Liabilities			
$ in millions	Bilateral OTC	Cleared OTC	Exchange-Traded	Total
Designated as accounting hedges				
Interest rate contracts	**$ 176**	**$ —**	**$ —**	**$ 176**
Foreign exchange contracts	**62**	**24**	**—**	**86**
Total	**238**	**24**	**—**	**262**
Not designated as accounting hedges				
Interest rate contracts	**142,592**	**2,669**	**663**	**145,924**
Credit contracts	**4,545**	**1,608**	**—**	**6,153**
Foreign exchange contracts	**62,099**	**1,302**	**19**	**63,420**
Equity contracts	**27,119**	**—**	**23,521**	**50,640**
Commodity and other contracts	**6,983**	**—**	**2,057**	**9,040**
Total	**243,338**	**5,579**	**26,260**	**275,177**
Total gross derivatives	**$ 243,576**	**$ 5,603**	**$ 26,260**	**$ 275,439**
Amounts offset				
Counterparty netting	**(190,220)**	**(5,260)**	**(24,548)**	**(220,028)**
Cash collateral netting	**(27,860)**	**(293)**	**—**	**(28,153)**
Total in Trading liabilities	**$ 25,496**	**$ 50**	**$ 1,712**	**$ 27,258**
Amounts not offset[1]				
Financial instruments collateral	**(4,709)**	**—**	**(766)**	**(5,475)**
Other cash collateral	**(53)**	**(1)**	**—**	**(54)**
Net amounts	**$ 20,734**	**$ 49**	**$ 946**	**$ 21,729**
Net amounts for which master netting or collateral agreements are not in place or may not be legally enforceable				**$ 4,773**

At December 31, 2017

	Assets			
$ in millions	Bilateral OTC	Cleared OTC	Exchange-Traded	Total
Designated as accounting hedges				
Interest rate contracts	$ 1,057	$ —	$ —	$ 1,057
Foreign exchange contracts	57	6	—	63
Total	1,114	6	—	1,120
Not designated as accounting hedges				
Interest rate contracts	177,948	1,700	234	179,882
Credit contracts	5,740	2,282	—	8,022
Foreign exchange contracts	52,878	798	58	53,734
Equity contracts	24,452	—	20,538	44,990
Commodity and other contracts	8,861	—	1,802	10,663
Total	269,879	4,780	22,632	297,291
Total gross derivatives	$ 270,993	$ 4,786	$ 22,632	$ 298,411
Amounts offset				
Counterparty netting	(201,051)	(3,856)	(19,861)	(224,768)
Cash collateral netting	(42,141)	(689)	—	(42,830)
Total in Trading assets	$ 27,801	$ 241	$ 2,771	$ 30,813
Amounts not offset[1]				
Financial instruments collateral	(12,363)	—	—	(12,363)
Other cash collateral	(4)	—	—	(4)
Net amounts	$ 15,434	$ 241	$ 2,771	$ 18,446
Net amounts for which master netting or collateral agreements are not in place or may not be legally enforceable				$ 3,154

	Liabilities			
$ in millions	Bilateral OTC	Cleared OTC	Exchange-Traded	Total
Designated as accounting hedges				
Interest rate contracts	$ 67	$ 1	$ —	$ 68
Foreign exchange contracts	72	57	—	129
Total	139	58	—	197
Not designated as accounting hedges				
Interest rate contracts	161,758	1,178	144	163,080
Credit contracts	6,273	2,272	—	8,545
Foreign exchange contracts	54,191	925	23	55,139
Equity contracts	27,993	—	19,996	47,989
Commodity and other contracts	7,117	—	1,772	8,889
Total	257,332	4,375	21,935	283,642
Total gross derivatives	$ 257,471	$ 4,433	$ 21,935	$ 283,839
Amounts offset				
Counterparty netting	(201,051)	(3,856)	(19,861)	(224,768)
Cash collateral netting	(31,892)	(484)	—	(32,376)
Total in Trading liabilities	$ 24,528	$ 93	$ 2,074	$ 26,695
Amounts not offset[1]				
Financial instruments collateral	(5,523)	—	(412)	(5,935)
Other cash collateral	(18)	(14)	—	(32)
Net amounts	$ 18,987	$ 79	$ 1,662	$ 20,728
Net amounts for which master netting or collateral agreements are not in place or may not be legally enforceable				$ 3,751

1. Amounts relate to master netting agreements and collateral agreements that have been determined by the Firm to be legally enforceable in the event of default but where certain other criteria are not met in accordance with applicable offsetting accounting guidance.

See Note 3 for information related to the unsettled fair value of futures contracts not designated as accounting hedges, which are excluded from the previous tables.

Derivative Notionals

At December 31, 2018

$ in billions	Assets Bilateral OTC	Cleared OTC	Exchange-Traded	Total
Designated as accounting hedges				
Interest rate contracts	**$ 15**	**$ 52**	**$ —**	**$ 67**
Foreign exchange contracts	**5**	**1**	**—**	**6**
Total	**20**	**53**	**—**	**73**
Not designated as accounting hedges				
Interest rate contracts	**4,807**	**6,708**	**1,157**	**12,672**
Credit contracts	**162**	**74**	**—**	**236**
Foreign exchange contracts	**2,436**	**118**	**14**	**2,568**
Equity contracts	**373**	**—**	**371**	**744**
Commodity and other contracts	**97**	**—**	**67**	**164**
Total	**7,875**	**6,900**	**1,609**	**16,384**
Total gross derivatives	**$ 7,895**	**$ 6,953**	**$ 1,609**	**$16,457**

$ in billions	Liabilities Bilateral OTC	Cleared OTC	Exchange-Traded	Total
Designated as accounting hedges				
Interest rate contracts	**$ 2**	**$ 107**	**$ —**	**$ 109**
Foreign exchange contracts	**5**	**1**	**—**	**6**
Total	**7**	**108**	**—**	**115**
Not designated as accounting hedges				
Interest rate contracts	**4,946**	**5,735**	**781**	**11,462**
Credit contracts	**162**	**73**	**—**	**235**
Foreign exchange contracts	**2,451**	**114**	**17**	**2,582**
Equity contracts	**389**	**—**	**602**	**991**
Commodity and other contracts	**72**	**—**	**65**	**137**
Total	**8,020**	**5,922**	**1,465**	**15,407**
Total gross derivatives	**$ 8,027**	**$ 6,030**	**$ 1,465**	**$15,522**

At December 31, 2017

$ in billions	Assets Bilateral OTC	Cleared OTC	Exchange-Traded	Total
Designated as accounting hedges				
Interest rate contracts	$ 20	$ 46	$ —	$ 66
Foreign exchange contracts	4	—	—	4
Total	24	46	—	70
Not designated as accounting hedges				
Interest rate contracts	3,999	6,458	2,714	13,171
Credit contracts	194	100	—	294
Foreign exchange contracts	1,960	67	9	2,036
Equity contracts	397	—	334	731
Commodity and other contracts	86	—	72	158
Total	6,636	6,625	3,129	16,390
Total gross derivatives	$ 6,660	$ 6,671	$ 3,129	$16,460

$ in billions	Liabilities Bilateral OTC	Cleared OTC	Exchange-Traded	Total
Designated as accounting hedges				
Interest rate contracts	$ 2	$ 102	$ —	$ 104
Foreign exchange contracts	4	2	—	6
Total	6	104	—	110
Not designated as accounting hedges				
Interest rate contracts	4,199	6,325	1,089	11,613
Credit contracts	226	80	—	306
Foreign exchange contracts	2,014	78	51	2,143
Equity contracts	394	—	405	799
Commodity and other contracts	68	—	61	129
Total	6,901	6,483	1,606	14,990
Total gross derivatives	$ 6,907	$ 6,587	$ 1,606	$15,100

The Firm believes that the notional amounts of derivative contracts generally overstate its exposure. In most circumstances notional amounts are only used as a reference point from which to calculate amounts owed between the parties to the contract. Furthermore, notional amounts do not reflect the benefit of legally enforceable netting arrangements or risk mitigating transactions.

Gains (Losses) on Accounting Hedges

$ in millions	2018	2017	2016
Fair Value Hedges—Recognized in Interest Expense			
Interest rate contracts	**$ (1,529)**	$ (1,591)	$ (1,738)
Borrowings	**1,511**	1,393	1,541
Net Investment Hedges—Foreign exchange contracts			
Recognized in OCI	**$ 295**	$ (365)	$ (1)
Forward points excluded from hedge effectiveness testing—Recognized in Interest income	**68**	(20)	(74)

Fair Value Hedges—Hedged Items

$ in millions	At December 31, 2018
Investment Securities—AFS[1]	
Carrying amount[2] currently or previously hedged	**$ 201**
Borrowings	
Carrying amount[2] currently or previously hedged	**$ 102,899**
Basis adjustments included in carrying amount[3]	**$ (1,689)**

1. In the third quarter of 2018, the Firm began designating interest rate swaps as fair value hedges of certain AFS securities. Amounts recognized in interest income and basis adjustments related to AFS securities were not material.
2. Carrying amount represents amortized cost basis.
3. Hedge accounting basis adjustments for Borrowings are primarily related to outstanding hedges.

Credit Risk-Related Contingencies

Net Derivative Liabilities and Collateral Posted

$ in millions	At December 31, 2018	At December 31, 2017
Net derivative liabilities with credit risk-related contingent features	$ 16,403	$ 20,675
Collateral posted	11,981	16,642

The previous table presents the aggregate fair value of certain derivative contracts that contain credit risk-related contingent features that are in a net liability position for which the Firm has posted collateral in the normal course of business.

Incremental Collateral and Termination Payments upon Potential Future Ratings Downgrade

$ in millions	At December 31, 2018
One-notch downgrade	$ 460
Two-notch downgrade	321
Bilateral downgrade agreements included in the amounts above[1]	$ 707

1. Amount represents arrangements between the Firm and other parties where upon the downgrade of one party, the downgraded party must deliver collateral to the other party. These bilateral downgrade arrangements are used by the Firm to manage the risk of counterparty downgrades.

The additional collateral or termination payments that may be called in the event of a future credit rating downgrade vary by contract and can be based on ratings by either or both of Moody's Investors Service, Inc. ("Moody's") and S&P Global Ratings. The previous table shows the future potential collateral amounts and termination payments that could be called or required by counterparties or exchange and clearing organizations in the event of one-notch or two-notch downgrade scenarios based on the relevant contractual downgrade triggers.

Credit Derivatives and Other Credit Contracts

The Firm enters into credit derivatives, principally CDS, under which it receives or provides protection against the risk of default on a set of debt obligations issued by a specified reference entity or entities. A majority of the Firm's counterparties for these derivatives are banks, broker-dealers, and insurance and other financial institutions.

Maximum Potential Payout/Notional of Credit Protection Sold[1]

	Years to Maturity at December 31, 2018				
$ in millions	< 1	1-3	3-5	Over 5	Total
Single-name CDS					
Investment grade	$22,297	$23,876	$ 19,469	$ 7,844	$ 73,486
Non-investment grade	10,135	11,061	9,020	861	31,077
Total	$32,432	$34,937	$ 28,489	$ 8,705	$104,563
Index and basket CDS					
Investment grade	$ 5,341	$ 9,901	$ 60,887	$ 6,816	$ 82,945
Non-investment grade	4,574	5,820	12,855	13,272	36,521
Total	$ 9,915	$15,721	$ 73,742	$20,088	$119,466
Total CDS sold	$42,347	$50,658	$102,231	$28,793	$224,029
Other credit contracts	—	—	—	116	116
Total credit protection sold	$42,347	$50,658	$102,231	$28,909	$224,145
CDS protection sold with identical protection purchased					$209,972

	Years to Maturity at December 31, 2017				
$ in millions	< 1	1-3	3-5	Over 5	Total
Single-name CDS					
Investment grade	$39,721	$42,591	$18,157	$ 8,872	$109,341
Non-investment grade	14,213	16,293	6,193	908	37,607
Total	$53,934	$58,884	$24,350	$ 9,780	$146,948
Index and basket CDS					
Investment grade	$29,046	$15,418	$37,343	$ 6,807	$ 88,614
Non-investment grade	5,246	7,371	32,417	9,289	54,323
Total	$34,292	$22,789	$69,760	$16,096	$142,937
Total CDS sold	$88,226	$81,673	$94,110	$25,876	$289,885
Other credit contracts	2	—	—	134	136
Total credit protection sold	$88,228	$81,673	$94,110	$26,010	$290,021
CDS protection sold with identical protection purchased					$274,473

Fair Value (Asset)/Liability of Credit Protection Sold[1]

$ in millions	At December 31, 2018	At December 31, 2017
Single-name CDS		
Investment grade	**$ (118)**	$ (1,167)
Non-investment grade	**403**	(110)
Total	**$ 285**	$ (1,277)
Index and basket CDS		
Investment grade	**$ (314)**	$ (1,091)
Non-investment grade	**1,413**	408
Total	**$ 1,099**	$ (683)
Total CDS sold	**$ 1,384**	$ (1,960)
Other credit contracts	**14**	16
Total credit protection sold	**$ 1,398**	$ (1,944)

1. Investment grade/non-investment grade determination is based on the internal credit rating of the reference obligation.

The fair value amounts as shown in the previous table are prior to cash collateral or counterparty netting. Internal credit ratings serve as the Credit Risk Management Department's assessment of credit risk and the basis for a comprehensive credit limits framework used to control credit risk. The Firm uses quantitative models and judgment to estimate the various risk parameters related to each obligor.

Protection Purchased with CDS

	At December 31, 2018	
$ in millions	Fair Value (Asset)/Liability	Notional
Single name	**$ (277)**	**$ 116,333**
Index and basket	**(1,333)**	**117,022**
Tranched index and basket	**251**	**13,524**
Total	**$ (1,359)**	**$ 246,879**

	At December 31, 2017	
$ in millions	Fair Value (Asset)/Liability	Notional
Single name	$ 1,658	$ 164,773
Index and basket	209	120,348
Tranched index and basket	616	24,498
Total	$ 2,483	$ 309,619

The purchase of credit protection does not represent the sole manner in which the Firm risk manages its exposure to credit derivatives. The Firm manages its exposure to these derivative contracts through a variety of risk mitigation strategies, which include managing the credit and correlation risk across single-name, non-tranched indices and baskets, tranched indices and baskets, and cash positions. Aggregate market risk limits have been established for credit derivatives, and market risk measures are routinely monitored against these limits. The Firm may also recover amounts on the underlying reference obligation delivered to the Firm under CDS where credit protection was sold.

Single-Name CDS. A CDS protects the buyer against the loss of principal on a bond or loan in case of a default by the issuer. The protection buyer pays a periodic premium (generally quarterly) over the life of the contract and is protected for the period. The Firm, in turn, performs under a CDS if a credit event as defined under the contract occurs. Typical credit events include bankruptcy, dissolution or insolvency of the referenced entity, failure to pay and restructuring of the obligations of the referenced entity.

Index and Basket CDS. Index and basket CDS are products where credit protection is provided on a portfolio of single name CDS. Generally, in the event of a default on one of the underlying names, the Firm pays a pro rata portion of the total notional amount of the CDS.

The Firm also enters into tranched index and basket CDS where credit protection is provided on a particular portion of the portfolio loss distribution. The most junior tranches cover initial defaults, and once losses exceed the notional of the tranche, they are passed on to the next most senior tranche in the capital structure.

Other Credit Contracts. The Firm has invested in CLNs and CDOs, which are hybrid instruments containing embedded derivatives, in which credit protection has been sold to the issuer of the note. If there is a credit event of a reference entity underlying the instrument, the principal balance of the note may not be repaid in full to the Firm.

5. Investment Securities

AFS and HTM Securities

$ in millions	At December 31, 2018 Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
AFS securities				
U.S. government and agency securities:				
U.S. Treasury securities	**$ 36,268**	**$ 40**	**$ 656**	**$ 35,652**
U.S. agency securities[1]	**20,740**	**10**	**497**	**20,253**
Total U.S. government and agency securities	**57,008**	**50**	**1,153**	**55,905**
Corporate and other debt:				
Agency CMBS	**1,054**	**—**	**62**	**992**
Non-agency CMBS	**461**	**—**	**14**	**447**
Corporate bonds	**1,585**	**—**	**32**	**1,553**
State and municipal securities	**200**	**2**	**—**	**202**
FFELP student loan ABS[2]	**1,967**	**10**	**15**	**1,962**
Total corporate and other debt	**5,267**	**12**	**123**	**5,156**
Total AFS securities	**62,275**	**62**	**1,276**	**61,061**
HTM securities				
U.S. government and agency securities:				
U.S. Treasury securities	**17,832**	**44**	**403**	**17,473**
U.S. agency securities[1]	**12,456**	**8**	**446**	**12,018**
Total U.S. government and agency securities	**30,288**	**52**	**849**	**29,491**
Corporate and other debt:				
Non-agency CMBS	**483**	**—**	**9**	**474**
Total HTM securities	**30,771**	**52**	**858**	**29,965**
Total investment securities	**$ 93,046**	**$ 114**	**$ 2,134**	**$ 91,026**

$ in millions	At December 31, 2017 Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
AFS debt securities				
U.S. government and agency securities:				
U.S. Treasury securities	$ 26,842	$ —	$ 589	$ 26,253
U.S. agency securities[1]	22,803	28	247	22,584
Total U.S. government and agency securities	49,645	28	836	48,837
Corporate and other debt:				
Agency CMBS	1,370	2	49	1,323
Non-agency CMBS	1,102	—	8	1,094
Corporate bonds	1,379	5	12	1,372
CLO	398	1	—	399
FFELP student loan ABS[2]	2,165	15	7	2,173
Total corporate and other debt	6,414	23	76	6,361
Total AFS debt securities	56,059	51	912	55,198
AFS equity securities	15	—	10	5
Total AFS securities	56,074	51	922	55,203
HTM securities				
U.S. government and agency securities:				
U.S. Treasury securities	11,424	—	305	11,119
U.S. agency securities[1]	11,886	7	220	11,673
Total U.S. government and agency securities	23,310	7	525	22,792
Corporate and other debt:				
Non-agency CMBS	289	1	1	289
Total HTM securities	23,599	8	526	23,081
Total investment securities	$ 79,673	$ 59	$ 1,448	$ 78,284

1. U.S. agency securities consist mainly of agency-issued debt, agency mortgage pass-through pool securities and CMOs.
2. Underlying loans are backed by a guarantee, ultimately from the U.S. Department of Education, of at least 95% of the principal balance and interest outstanding.

Investment Securities in an Unrealized Loss Position

$ in millions	At December 31, 2018					
	Less than 12 Months		12 Months or Longer		Total	
	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses
AFS securities						
U.S. government and agency securities:						
U.S. Treasury securities	**$ 19,937**	**$ 541**	**$ 5,994**	**$ 115**	**$ 25,931**	**$ 656**
U.S. agency securities	**12,904**	**383**	**4,142**	**114**	**17,046**	**497**
Total U.S. government and agency securities	**32,841**	**924**	**10,136**	**229**	**42,977**	**1,153**
Corporate and other debt:						
Agency CMBS	**808**	**62**	**—**	**—**	**808**	**62**
Non-agency CMBS	**—**	**—**	**446**	**14**	**446**	**14**
Corporate bonds	**470**	**7**	**1,010**	**25**	**1,480**	**32**
FFELP student loan ABS	**1,366**	**15**	**—**	**—**	**1,366**	**15**
Total corporate and other debt	**2,644**	**84**	**1,456**	**39**	**4,100**	**123**
Total AFS securities	**35,485**	**1,008**	**11,592**	**268**	**47,077**	**1,276**
HTM securities						
U.S. government and agency securities:						
U.S. Treasury securities	**—**	**—**	**11,161**	**403**	**11,161**	**403**
U.S. agency securities	**410**	**1**	**10,004**	**445**	**10,414**	**446**
Total U.S. government and agency securities	**410**	**1**	**21,165**	**848**	**21,575**	**849**
Corporate and other debt:						
Non-agency CMBS	**206**	**1**	**216**	**8**	**422**	**9**
Total HTM securities	**616**	**2**	**21,381**	**856**	**21,997**	**858**
Total investment securities	**$ 36,101**	**$ 1,010**	**$ 32,973**	**$ 1,124**	**$ 69,074**	**$ 2,134**

$ in millions	At December 31, 2017					
	Less than 12 Months		12 Months or Longer		Total	
	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses
AFS debt securities						
U.S. government and agency securities:						
U.S. Treasury securities	$ 21,941	$ 495	$ 4,287	$ 94	$ 26,228	$ 589
U.S. agency securities	12,673	192	2,513	55	15,186	247
Total U.S. government and agency securities	34,614	687	6,800	149	41,414	836
Corporate and other debt:						
Agency CMBS	930	49	—	—	930	49
Non-agency CMBS	257	1	559	7	816	8
Corporate bonds	316	3	389	9	705	12
FFELP student loan ABS	984	7	—	—	984	7
Total corporate and other debt	2,487	60	948	16	3,435	76
Total AFS debt securities	37,101	747	7,748	165	44,849	912
AFS equity securities	—	—	5	10	5	10
Total AFS securities	37,101	747	7,753	175	44,854	922
HTM securities						
U.S. government and agency securities:						
U.S. Treasury securities	6,608	86	4,512	219	11,120	305
U.S. agency securities	2,879	24	7,298	196	10,177	220
Total U.S. government and agency securities	9,487	110	11,810	415	21,297	525
Corporate and other debt:						
Non-agency CMBS	124	1	—	—	124	1
Total HTM securities	9,611	111	11,810	415	21,421	526
Total investment securities	$ 46,712	$ 858	$ 19,563	$ 590	$ 66,275	$ 1,448

The Firm believes there are no securities in an unrealized loss position that are other-than-temporarily impaired after performing the analysis described in Note 2. For AFS debt securities, the Firm does not intend to sell the securities and is not likely to be required to sell the securities prior to recovery of the amortized cost basis. Furthermore, for AFS and HTM debt securities, the securities have not experienced credit losses as the net unrealized losses reported in the previous table are primarily due to higher interest rates since those securities were purchased.

See Note 13 for additional information on securities issued by VIEs, including U.S. agency mortgage-backed securities, non-agency CMBS, CLO and FFELP student loan ABS.

Investment Securities by Contractual Maturity

	At December 31, 2018		
$ in millions	Amortized Cost	Fair Value	Annualized Average Yield
AFS securities			
U.S. government and agency securities:			
U.S. Treasury securities:			
Due within 1 year	$ 4,419	$ 4,387	1.6%
After 1 year through 5 years	28,607	28,179	2.0%
After 5 years through 10 years	3,242	3,086	1.9%
Total	36,268	35,652	
U.S. agency securities:			
Due within 1 year	434	431	1.0%
After 1 year through 5 years	796	784	1.2%
After 5 years through 10 years	1,635	1,583	1.8%
After 10 years	17,875	17,455	2.2%
Total	20,740	20,253	
Total U.S. government and agency securities	57,008	55,905	2.0%
Corporate and other debt:			
Agency CMBS:			
After 1 year through 5 years	283	281	1.4%
After 5 years through 10 years	21	20	1.2%
After 10 years	750	691	1.6%
Total	1,054	992	
Non-agency CMBS:			
After 1 year through 5 years	36	34	2.5%
After 10 years	425	413	2.4%
Total	461	447	
Corporate bonds:			
Due within 1 year	70	70	1.7%
After 1 year through 5 years	1,365	1,335	2.5%
After 5 years through 10 years	150	148	3.3%
Total	1,585	1,553	
State and municipal securities:			
After 5 years through 10 years	200	202	3.7%
Total	200	202	
FFELP student loan ABS:			
After 1 year through 5 years	$ 81	$ 80	0.8%
After 5 years through 10 years	307	303	0.8%
After 10 years	1,579	1,579	1.2%
Total	1,967	1,962	
Total corporate and other debt	5,267	5,156	1.8%
Total AFS securities	62,275	61,061	2.0%
HTM securities			
U.S. government and agency securities:			
U.S. Treasury securities:			
Due within 1 year	1,875	1,870	1.2%
After 1 year through 5 years	7,478	7,435	2.3%
After 5 years through 10 years	7,753	7,536	2.2%
After 10 years	726	632	2.3%
Total	17,832	17,473	
U.S. agency securities:			
After 5 years through 10 years	30	29	1.9%
After 10 years	12,426	11,989	2.7%
Total	12,456	12,018	
Total U.S. government and agency securities	30,288	29,491	2.4%
Corporate and other debt:			
Non-agency CMBS:			
Due within 1 year	65	65	3.5%
After 1 year through 5 years	70	69	4.4%
After 5 years through 10 years	302	294	4.0%
After 10 years	46	46	4.4%
Total corporate and other debt	483	474	4.1%
Total HTM securities	30,771	29,965	2.4%
Total investment securities	$ 93,046	$ 91,026	2.1%

Gross Realized Gains (Losses) on Sales of AFS Securities

$ in millions	2018	2017	2016
Gross realized gains	$ 12	$ 46	$133
Gross realized (losses)	(4)	(11)	(21)
Total[1]	$ 8	$ 35	$112

1. Realized gains and losses are recognized in Other revenues in the income statements.

6. Collateralized Transactions

The Firm enters into securities purchased under agreements to resell, securities sold under agreements to repurchase, securities borrowed and securities loaned transactions to, among other things, acquire securities to cover short positions and settle other securities obligations, to accommodate customers' needs and to finance its inventory positions.

The Firm manages credit exposure arising from such transactions by, in appropriate circumstances, entering into master netting agreements and collateral agreements with counterparties that provide the Firm, in the event of a counterparty default (such as bankruptcy or a counterparty's failure to pay or perform), with the right to net a counterparty's rights and obligations under such agreement and liquidate and set off collateral held by the Firm against the net amount owed by the counterparty.

The Firm's policy is generally to take possession of securities purchased or borrowed in connection with securities purchased under agreements to resell and securities borrowed transactions, respectively, and to receive cash and securities delivered under securities sold under agreements to repurchase or securities loaned transactions (with rights of rehypothecation). In certain cases, the Firm may be permitted to post collateral to a third-party custodian under a tri-party arrangement that enables the Firm to take control of such collateral in the event of a counterparty default.

The Firm also monitors the fair value of the underlying securities as compared with the related receivable or payable, including accrued interest, and, as necessary, requests additional collateral, as provided under the applicable agreement to ensure such transactions are adequately collateralized, or the return of excess collateral.

The risk related to a decline in the market value of collateral pledged or received is managed by setting appropriate market-based haircuts. Increases in collateral margin calls on secured financing due to market value declines may be mitigated by increases in collateral margin calls on securities purchased under agreements to resell and securities borrowed transactions with similar quality collateral. Additionally, the Firm may request lower quality collateral pledged be replaced with higher quality collateral through collateral substitution rights in the underlying agreements.

The Firm actively manages its secured financings in a manner that reduces the potential refinancing risk of secured financings of less liquid assets. The Firm considers the quality of collateral when negotiating collateral eligibility with counterparties, as defined by its fundability criteria. The Firm utilizes shorter term secured financing for highly liquid assets and has established longer tenor limits for less liquid assets, for which funding may be at risk in the event of a market disruption.

Offsetting of Certain Collateralized Transactions

	At December 31, 2018				
$ in millions	Gross Amounts	Amounts Offset	Net Amounts Presented	Amounts Not Offset[1]	Net Amounts
Assets					
Securities purchased under agreements to resell	**$ 262,976**	**$ (164,454)**	**$ 98,522**	**$ (95,610)**	**$ 2,912**
Securities borrowed	**134,711**	**(18,398)**	**116,313**	**(112,551)**	**3,762**
Liabilities					
Securities sold under agreements to repurchase	**$ 214,213**	**$ (164,454)**	**$ 49,759**	**$ (41,095)**	**$ 8,664**
Securities loaned	**30,306**	**(18,398)**	**11,908**	**(11,677)**	**231**
Net amounts for which master netting agreements are not in place or may not be legally enforceable					
Securities purchased under agreements to resell					**$ 2,579**
Securities borrowed					**724**
Securities sold under agreements to repurchase					**6,762**
Securities loaned					**191**

	At December 31, 2017				
$ in millions	Gross Amounts	Amounts Offset	Net Amounts Presented	Amounts Not Offset[1]	Net Amounts
Assets					
Securities purchased under agreements to resell	$ 199,044	$ (114,786)	$ 84,258	$ (78,009)	$ 6,249
Securities borrowed	133,431	(9,421)	124,010	(119,358)	4,652
Liabilities					
Securities sold under agreements to repurchase	$ 171,210	$ (114,786)	$ 56,424	$ (48,067)	$ 8,357
Securities loaned	23,014	(9,422)	13,592	(13,271)	321
Net amounts for which master netting agreements are not in place or may not be legally enforceable					
Securities purchased under agreements to resell					$ 5,687
Securities borrowed					572
Securities sold under agreements to repurchase					6,945
Securities loaned					307

1. Amounts relate to master netting agreements that have been determined by the Firm to be legally enforceable in the event of default but where certain other criteria are not met in accordance with applicable offsetting accounting guidance.

For information related to offsetting of derivatives, see Note 4.

Gross Secured Financing Balances by Remaining Contractual Maturity

	At December 31, 2018				
$ in millions	Overnight and Open	Less than 30 Days	30-90 Days	Over 90 Days	Total
Securities sold under agreements to repurchase	**$ 56,503**	**$ 93,427**	**$ 35,692**	**$ 28,591**	**$ 214,213**
Securities loaned	**18,397**	**3,609**	**1,985**	**6,315**	**30,306**
Total included in the offsetting disclosure	**$ 74,900**	**$ 97,036**	**$ 37,677**	**$ 34,906**	**$ 244,519**
Trading liabilities—Obligation to return securities received as collateral	**17,594**	**—**	**—**	**—**	**17,594**
Total	**$ 92,494**	**$ 97,036**	**$ 37,677**	**$ 34,906**	**$ 262,113**

	At December 31, 2017				
$ in millions	Overnight and Open	Less than 30 Days	30-90 Days	Over 90 Days	Total
Securities sold under agreements to repurchase	$ 41,332	$ 66,593	$ 28,682	$ 34,603	$ 171,210
Securities loaned	12,130	873	1,577	8,434	23,014
Total included in the offsetting disclosure	$ 53,462	$ 67,466	$ 30,259	$ 43,037	$ 194,224
Trading liabilities—Obligation to return securities received as collateral	22,555	—	—	—	22,555
Total	$ 76,017	$ 67,466	$ 30,259	$ 43,037	$ 216,779

Gross Secured Financing Balances by Class of Collateral Pledged

$ in millions	At December 31, 2018	At December 31, 2017
Securities sold under agreements to repurchase		
U.S. Treasury and agency securities	**$ 68,487**	$ 43,346
State and municipal securities	**925**	2,451
Other sovereign government obligations	**120,432**	87,141
ABS	**3,017**	1,130
Corporate and other debt	**8,719**	7,737
Corporate equities	**12,079**	28,497
Other	**554**	908
Total	**$ 214,213**	$ 171,210
Securities loaned		
Other sovereign government obligations	**$ 19,021**	$ 9,489
Corporate equities	**10,800**	13,174
Other	**485**	351
Total	**$ 30,306**	$ 23,014
Total included in the offsetting disclosure	**$ 244,519**	$ 194,224
Trading liabilities—Obligation to return securities received as collateral		
Corporate equities	**$ 17,594**	$ 22,555
Total	**$ 262,113**	$ 216,779

Carrying Value of Assets Loaned or Pledged without Counterparty Right to Sell or Repledge

$ in millions	At December 31, 2018	At December 31, 2017
Trading assets	**$ 39,430**	$ 31,324
Loans (gross of allowance for loan losses)	**—**	228
Total	**$ 39,430**	$ 31,552

The Firm pledges its trading assets and loans to collateralize securities sold under agreements to repurchase, securities loaned, other secured financings and derivatives and to cover customer short sales. Counterparties may or may not have the right to sell or repledge the collateral.

Pledged financial instruments that can be sold or repledged by the secured party are identified as Trading assets (pledged to various parties) in the balance sheets.

Fair Value of Collateral Received with Right to Sell or Repledge

$ in millions	At December 31, 2018	At December 31, 2017
Collateral received with right to sell or repledge	**$ 639,610**	$ 599,244
Collateral that was sold or repledged[1]	**487,983**	475,113

1. Does not include securities used to meet federal regulations for the Firm's broker-dealers.

Restricted Cash and Segregated Securities

$ in millions	At December 31, 2018	At December 31, 2017
Restricted cash	**$ 35,356**	$ 34,231
Segregated securities[1]	**26,877**	20,549
Total	**$ 62,233**	$ 54,780

1. Securities segregated under federal regulations for the Firm's U.S. broker-dealers are sourced from Securities purchased under agreements to resell and Trading assets in the balance sheets.

The Firm receives collateral in the form of securities in connection with securities purchased under agreements to resell, securities borrowed, securities-for-securities transactions, derivative transactions, customer margin loans and securities-based lending. In many cases, the Firm is permitted to sell or repledge these securities held as collateral and use the securities to secure securities sold under agreements to repurchase, to enter into securities lending and derivative transactions or for delivery to counterparties to cover short positions.

Concentration Based on the Firm's Total Assets

	At December 31, 2018	At December 31, 2017
U.S. government and agency securities and other sovereign government obligations:		
Trading assets[1]	**12%**	9%
Off balance sheet—Collateral received[2]	**17%**	14%

1. Other sovereign government obligations included in Trading assets primarily consist of the U.K., Japan and Brazil.
2. Collateral received is primarily related to Securities purchased under agreements to resell and Securities borrowed.

The Firm is subject to concentration risk by holding large positions in certain types of securities, loans or commitments to purchase securities of a single issuer, including sovereign governments and other entities, issuers located in a particular country or geographic area, public and private issuers involving developing countries or issuers engaged in a particular industry.

Positions taken and underwriting and financing commitments, including those made in connection with the Firm's private equity, principal investment and lending activities, often involve substantial amounts and significant exposure to individual issuers and businesses, including investment grade and non-investment grade issuers.

Customer Margin Lending

$ in millions	At December 31, 2018	At December 31, 2017
Customer receivables representing margin loans	**$ 26,225**	$ 32,112

The Firm provides margin lending arrangements which allow customers to borrow against the value of qualifying securities. Receivables under margin lending arrangements are included within Customer and other receivables in the balance sheets. Under these agreements and transactions, the Firm receives collateral, including U.S. government and agency securities, other sovereign government obligations, corporate and other debt, and corporate equities. Customer receivables generated from margin lending activities are collateralized by customer-owned securities held by the Firm. The Firm monitors required margin levels and established credit terms daily and, pursuant to such guidelines, requires customers to deposit additional collateral, or reduce positions, when necessary.

Margin loans are extended on a demand basis and generally are not committed facilities. Factors considered in the review of margin loans are the amount of the loan, the intended purpose, the degree of leverage being employed in the account, and an overall evaluation of the portfolio to ensure proper diversification or, in the case of concentrated positions, appropriate liquidity of the underlying collateral or potential hedging strategies to reduce risk. Underlying collateral for margin loans is reviewed with respect to the liquidity of the proposed collateral positions, valuation of securities, historic trading range, volatility analysis and an evaluation of industry concentrations. For these transactions, adherence to the Firm's collateral policies significantly limits its credit exposure in the event of a customer default. The Firm may request additional margin collateral from customers, if appropriate, and, if necessary, may sell securities that have not been paid for or purchase securities sold but not delivered from customers.

Other Secured Financings

Other secured financings include the liabilities related to transfers of financial assets that are accounted for as financings rather than sales, consolidated VIEs where the Firm is deemed to be the primary beneficiary, and certain ELNs and other secured borrowings. These liabilities are generally payable from the cash flows of the related assets, which are accounted for as Trading assets (see Notes 11 and 13).

7. Loans, Lending Commitments and Allowance for Credit Losses

Loans

The Firm's loan portfolio consists of the following types of loans:

- *Corporate*. Corporate loans primarily include commercial and industrial lending used for general corporate purposes, working capital and liquidity, event-driven loans and asset-backed lending products. Event-driven loans support client merger, acquisition, recapitalization or project finance activities. Corporate loans are structured as revolving lines of credit, letter of credit facilities, term loans and bridge loans. Risk factors considered in determining the allowance for corporate loans include the borrower's financial strength, industry, facility structure, collateral, and covenants along with other qualitative factors.

- *Consumer*. Consumer loans include unsecured loans and securities-based lending, which allows clients to borrow money against the value of qualifying securities for any suitable purpose other than purchasing, trading, or carrying securities or refinancing margin debt. The majority of consumer loans are structured as revolving lines of credit and letter of credit facilities and are primarily offered through the Firm's Liquidity Access Line program. The allowance methodology for unsecured loans considers the specific attributes of the loan, as well as the borrower's source of repayment. The allowance methodology for securities-based lending considers the collateral type underlying the loan (*e.g.*, diversified securities, concentrated securities or restricted stock).

- *Residential Real Estate*. Residential real estate loans mainly include non-conforming loans and HELOC. The allowance methodology for non-conforming residential mortgage loans considers several factors, including, but not limited to, loan-to-value ratio, FICO score, home price index and delinquency status. The methodology for HELOC considers credit limits and utilization rates in addition to the factors considered for non-conforming residential mortgages.

- *Wholesale Real Estate*. Wholesale real estate loans include owner-occupied loans and income-producing loans. The principal risk factors for determining the allowance for wholesale real estate loans are the underlying collateral type, loan-to-value ratio and debt service ratio.

Loans by Type

	At December 31, 2018		
$ in millions	Loans Held for Investment	Loans Held for Sale	Total Loans
Corporate	**$ 36,909**	**$ 13,886**	**$ 50,795**
Consumer	**27,868**	**—**	**27,868**
Residential real estate	**27,466**	**22**	**27,488**
Wholesale real estate	**7,810**	**1,856**	**9,666**
Total loans, gross	**100,053**	**15,764**	**115,817**
Allowance for loan losses	**(238)**	**—**	**(238)**
Total loans, net	**$ 99,815**	**$ 15,764**	**$ 115,579**
Fixed rate loans, net			**$ 15,632**
Floating or adjustable rate loans, net			**99,947**
Loans to non-U.S. borrowers, net			**17,568**

	At December 31, 2017		
$ in millions	Loans Held for Investment	Loans Held for Sale	Total Loans
Corporate	$ 29,754	$ 9,456	$ 39,210
Consumer	26,808	—	26,808
Residential real estate	26,635	35	26,670
Wholesale real estate	9,980	1,682	11,662
Total loans, gross	93,177	11,173	104,350
Allowance for loan losses	(224)	—	(224)
Total loans, net	$ 92,953	$ 11,173	$ 104,126
Fixed rate loans, net			$ 13,339
Floating or adjustable rate loans, net			90,787
Loans to non-U.S. borrowers, net			9,977

See Note 3 for further information regarding Loans and lending commitments held at fair value. See Note 12 for details of current commitments to lend in the future.

Credit Quality

CRM evaluates new obligors before credit transactions are initially approved and at least annually thereafter for corporate and wholesale real estate loans. For corporate loans, credit evaluations typically involve the evaluation of financial statements, assessment of leverage, liquidity, capital strength, asset composition and quality, market capitalization and access to capital markets, cash flow projections and debt service requirements, and the adequacy of collateral, if applicable.

CRM also evaluates strategy, market position, industry dynamics, obligor's management and other factors that could affect an obligor's risk profile. For wholesale real estate loans, the credit evaluation is focused on property and transaction metrics, including property type, loan-to-value ratio, occupancy levels, debt service ratio, prevailing capitalization rates and market dynamics. For residential real estate and consumer loans, the initial credit evaluation typically includes, but is not limited to, review of the obligor's income, net worth, liquidity, collateral, loan-to-value ratio and credit bureau information. Subsequent credit monitoring for residential real estate loans is performed at the portfolio level. Consumer loan collateral values are monitored on an ongoing basis.

The Firm utilizes the following credit quality indicators, which are consistent with U.S. banking agencies' definitions of criticized exposures, as applicable, in its credit monitoring process for loans held for investment:

- *Pass*. A credit exposure rated pass has a continued expectation of timely repayment, all obligations of the borrower are current, and the obligor complies with material terms and conditions of the lending agreement.
- *Special Mention*. Extensions of credit that have potential weakness that deserve management's close attention and, if left uncorrected, may, at some future date, result in the deterioration of the repayment prospects or collateral position.
- *Substandard*. Obligor has a well-defined weakness that jeopardizes the repayment of the debt and has a high probability of payment default with the distinct possibility that the Firm will sustain some loss if noted deficiencies are not corrected.
- *Doubtful*. Inherent weakness in the exposure makes the collection or repayment in full, based on existing facts, conditions and circumstances, highly improbable, and the amount of loss is uncertain.
- *Loss*. Extensions of credit classified as loss are considered uncollectible and are charged off.

Loans considered as Doubtful or Loss are considered impaired. Substandard loans are regularly reviewed for impairment. For further information, see Note 2.

Loans Held for Investment before Allowance by Credit Quality

	At December 31, 2018				
$ in millions	Corporate	Consumer	Residential Real Estate	Wholesale Real Estate	Total
Pass	**$ 36,217**	**$ 27,863**	**$ 27,387**	**$ 7,378**	**$ 98,845**
Special mention	**492**	**5**	**—**	**312**	**809**
Substandard	**200**	**—**	**79**	**120**	**399**
Doubtful	**—**	**—**	**—**	**—**	**—**
Loss	**—**	**—**	**—**	**—**	**—**
Total	**$ 36,909**	**$ 27,868**	**$ 27,466**	**$ 7,810**	**$ 100,053**

	At December 31, 2017				
$ in millions	Corporate	Consumer	Residential Real Estate	Wholesale Real Estate	Total
Pass	$ 29,166	$ 26,802	$ 26,562	$ 9,480	$ 92,010
Special mention	188	6	—	200	394
Substandard	393	—	73	300	766
Doubtful	7	—	—	—	7
Loss	—	—	—	—	—
Total	$ 29,754	$ 26,808	$ 26,635	$ 9,980	$ 93,177

Impaired Loans and Lending Commitments before Allowance

	At December 31, 2018		
$ in millions	Corporate	Residential Real Estate	Total
Loans			
With allowance	**$ 24**	**$ —**	**$ 24**
Without allowance[1]	**32**	**69**	**101**
Total impaired loans	**$ 56**	**$ 69**	**$ 125**
UPB	**63**	**70**	**133**
Lending commitments			
With allowance	**$ 19**	**$ —**	**$ 19**
Without allowance[1]	**34**	**—**	**34**
Total impaired lending commitments	**53**	**—**	**53**

	At December 31, 2017		
$ in millions	Corporate	Residential Real Estate	Total
Loans			
With allowance	$ 16	$ —	$ 16
Without allowance[1]	118	45	163
Total impaired loans	$ 134	$ 45	$ 179
UPB	146	46	192
Lending commitments			
Without allowance[1]	$ 199	$ —	$ 199

1. At December 31, 2018 and December 31, 2017, no allowance was recorded for these loans and lending commitments as the present value of the expected future cash flows or value of the collateral held equaled or exceeded the carrying value.

Loans and lending commitments in the previous table have been evaluated for a specific allowance. All remaining loans and lending commitments are assessed under the inherent allowance methodology.

Impaired Loans and Total Allowance by Region

	At December 31, 2018			
$ in millions	Americas	EMEA	Asia	Total
Impaired loans	**$ 125**	**$ —**	**$ —**	**$ 125**
Total Allowance for loan losses	**193**	**42**	**3**	**238**

	At December 31, 2017			
$ in millions	Americas	EMEA	Asia	Total
Impaired loans	$ 160	$ 9	$ 10	$ 179
Total Allowance for loan losses	194	27	3	224

Troubled Debt Restructurings

$ in millions	**At December 31, 2018**	At December 31, 2017
Loans	**$ 38**	$ 51
Lending commitments	**45**	28
Allowance for loan losses and lending commitments	**4**	10

Impaired loans and lending commitments classified as held for investment within corporate loans include TDRs as shown in the previous table. These restructurings typically include modifications of interest rates, collateral requirements, other loan covenants and payment extensions.

Allowance for Loan Losses Rollforward

$ in millions	Corporate	Consumer	Residential Real Estate	Wholesale Real Estate	Total
December 31, 2017	$ 126	$ 4	$ 24	$ 70	$ 224
Gross charge-offs	**(5)**	**—**	**(1)**	**—**	**(6)**
Recoveries[1]	**54**	**—**	**—**	**—**	**54**
Net recoveries (charge-offs)	**49**	**—**	**(1)**	**—**	**48**
Provision (release)[1]	**(29)**	**3**	**(3)**	**5**	**(24)**
Other	**(2)**	**—**	**—**	**(8)**	**(10)**
December 31, 2018	**$ 144**	**$ 7**	**$ 20**	**$ 67**	**$ 238**
Inherent	**$ 139**	**$ 7**	**$ 20**	**$ 67**	**$ 233**
Specific	**5**	**—**	**—**	**—**	**5**

$ in millions	Corporate	Consumer	Residential Real Estate	Wholesale Real Estate	Total
December 31, 2016	$ 195	$ 4	$ 20	$ 55	$ 274
Gross charge-offs	(75)	—	—	—	(75)
Recoveries	1	—	—	—	1
Net recoveries (charge-offs)	(74)	—	—	—	(74)
Provision (release)	5	—	4	13	22
Other	—	—	—	2	2
December 31, 2017	$ 126	$ 4	$ 24	$ 70	$ 224
Inherent	$ 119	$ 4	$ 24	$ 70	$ 217
Specific	7	—	—	—	7

$ in millions	Corporate	Consumer	Residential Real Estate	Wholesale Real Estate	Total
December 31, 2015	$ 166	$ 5	$ 17	$ 37	$ 225
Gross charge-offs	(16)	—	(1)	—	(17)
Gross recoveries	3	—	—	—	3
Net recoveries (charge-offs)	(13)	—	(1)	—	(14)
Provision (release)	110	(1)	4	18	131
Other[2]	(68)	—	—	—	(68)
December 31, 2016	$ 195	$ 4	$ 20	$ 55	$ 274
Inherent	$ 133	$ 4	$ 20	$ 55	$ 212
Specific	62	—	—	—	62

1. During 2018 the release was primarily due to the recovery of an energy industry related loan charged off in 2017.
2. The reduction is primarily related to loans of $492 million that were transferred to loans held for sale during 2016.

Allowance for Lending Commitments Rollforward

$ in millions	Corporate	Consumer	Residential Real Estate	Wholesale Real Estate	Total
December 31, 2017	$ 194	$ 1	$ —	$ 3	$ 198
Provision (release)	**7**	**1**	**—**	**1**	**9**
Other	**(3)**	**—**	**—**	**(1)**	**(4)**
December 31, 2018	**$ 198**	**$ 2**	**$ —**	**$ 3**	**$ 203**
Inherent	**$ 193**	**$ 2**	**$ —**	**$ 3**	**$ 198**
Specific	**5**	**—**	**—**	**—**	**5**

$ in millions	Corporate	Consumer	Residential Real Estate	Wholesale Real Estate	Total
December 31, 2016	$ 185	$ 1	$ —	$ 4	$ 190
Provision (release)	8	—	—	(1)	7
Other	1	—	—	—	1
December 31, 2017	$ 194	$ 1	$ —	$ 3	$ 198
Inherent	$ 192	$ 1	$ —	$ 3	$ 196
Specific	2	—	—	—	2

$ in millions	Corporate	Consumer	Residential Real Estate	Wholesale Real Estate	Total
December 31, 2015	$ 180	$ 1	$ —	$ 4	$ 185
Provision (release)	13	—	—	—	13
Other	(8)	—	—	—	(8)
December 31, 2016	$ 185	$ 1	$ —	$ 4	$ 190
Inherent	$ 185	$ 1	$ —	$ 4	$ 190
Specific	—	—	—	—	—

Employee Loans

$ in millions	**At December 31, 2018**	At December 31, 2017
Balance	**$ 3,415**	$ 4,185
Allowance for loan losses	**(63)**	(77)
Balance, net	**$ 3,352**	$ 4,108
Repayment term range, in years	**1 to 20**	1 to 20

Employee loans are granted in conjunction with a program established to retain and recruit certain Wealth Management representatives, are full recourse and generally require periodic repayments. These loans are recorded in Customer and other receivables in the balance sheets. The Firm establishes an allowance for loan amounts it does not consider recoverable, and the related provision is recorded in Compensation and benefits expense.

8. Equity Method Investments

Overview

Equity method investments, other than certain investments in funds, are summarized below and are included in Other assets in the balance sheets with related income or loss included in Other revenues in the income statements. See the Fund Interests Measured Based on Net Asset Value table in Note 3 for the carrying value of the Firm's fund interests, which are comprised of general and limited partnership interests, as well as any related performance-based fees in the form of carried interest.

Equity Method Investment Balances

$ in millions	**At December 31, 2018**	At December 31, 2017
Investments	**$ 2,432**	$ 2,623

$ in millions	**2018**	2017	2016
Income (loss)[1]	**$ 20**	$ (34)	$ (79)

1. Includes impairments of the Investment Management business segment's interest in a third-party asset manager of $46 million in 2018 and $53 million in 2017.

Japanese Securities Joint Venture

$ in millions	**2018**	2017	2016
Income from investment in MUMSS	**$ 105**	$ 123	$ 93

Included in equity method investments is the Firm's 40% voting interest in Mitsubishi UFJ Morgan Stanley Securities Co., Ltd. ("MUMSS"). Mitsubishi UFJ Financial Group, Inc. ("MUFG") holds the other 60% voting interest in MUMSS. The Firm accounts for its equity method investment in MUMSS within the Institutional Securities business segment.

9. Goodwill and Intangible Assets

Goodwill

The Firm completed its annual goodwill impairment testing as of July 1, 2018 and July 1, 2017. The Firm's impairment testing for each period did not indicate any goodwill impairment, as each of the Firm's reporting units with goodwill had a fair value that was substantially in excess of its carrying value.

Goodwill Rollforward

$ in millions	IS	WM	IM	Total
At December 31, 2016[1]	$ 275	$ 5,533	$ 769	$ 6,577
Foreign currency and other	20	—	—	20
At December 31, 2017[1]	$ 295	$ 5,533	$ 769	$ 6,597
Foreign currency and other	**(21)**	**—**	**—**	**(21)**
Acquired	**—**	**—**	**112**	**112**
At December 31, 2018[1]	**$ 274**	**$ 5,533**	**$ 881**	**$ 6,688**
Accumulated impairments[2]	673	—	27	700

IS—Institutional Securities
WM—Wealth Management
IM—Investment Management

1. Balances represent cumulative the amount of the Firm's goodwill after accumulated impairments.
2. Balances represent cumulative amounts at December 31, 2018, 2017 and 2016 of impairments recognized prior to 2016.

Intangible Assets by Business Segment

$ in millions	IS	WM	IM	Total
Amortizable intangibles	$ 349	$ 2,092	$ 4	$ 2,445
Mortgage servicing rights	—	3	—	3
At December 31, 2017	$ 349	$ 2,095	$ 4	$ 2,448
Amortizable intangibles	**$ 270**	**$ 1,828**	**$ 60**	**$ 2,158**
Mortgage servicing rights	**2**	**3**	**—**	**5**
At December 31, 2018	**$ 272**	**$ 1,831**	**$ 60**	**$ 2,163**

Gross Amortizable Intangible Assets by Type

	At December 31, 2018		At December 31, 2017	
$ in millions	Gross Carrying Amount	Accumulated Amortization	Gross Carrying Amount	Accumulated Amortization
Trademarks	**$ 3**	**$ 1**	$ 1	$ —
Tradename	**283**	**59**	283	50
Customer relationships	**4,067**	**2,446**	4,059	2,193
Management contracts	**507**	**311**	503	299
Other	**175**	**60**	329	188
Total	**$ 5,035**	**$ 2,877**	$ 5,175	$ 2,730
Estimated annual amortization expense for the next five years				$ 296

Net Amortizable Intangible Assets Rollforward

$ in millions	IS	WM	IM	Total
At December 31, 2016	$ 346	$ 2,361	$ 11	$ 2,718
Acquired	51	—	—	51
Disposals	(15)	—	—	(15)
Amortization expense	(33)	(269)	(7)	(309)
At December 31, 2017	$ 349	$ 2,092	$ 4	$ 2,445
Acquired	**—**	**—**	**66**	**66**
Disposals	**(6)**	**—**	**—**	**(6)**
Amortization expense	**(70)**	**(264)**	**(10)**	**(344)**
Other	**(3)**	**—**	**—**	**(3)**
At December 31, 2018	**$ 270**	**$ 1,828**	**$ 60**	**$ 2,158**

10. Deposits

Deposits

$ in millions	**At December 31, 2018**	At December 31, 2017
Savings and demand deposits	**$ 154,897**	$ 144,487
Time deposits	**32,923**	14,949
Total	**$ 187,820**	$ 159,436
Deposits subject to FDIC insurance	**$ 144,515**	$ 127,017
Time deposits that equal or exceed the FDIC insurance limit	**$ 11**	$ 38

Time Deposit Maturities

$ in millions	**At December 31, 2018**
2019	**$ 17,111**
2020	**10,580**
2021	**2,249**
2022	**997**
2023	**1,795**
Thereafter	**191**

11. Borrowings and Other Secured Financings

Maturities and Terms of Borrowings

	Parent Company		Subsidiaries			
$ in millions	Fixed Rate	Variable Rate[1]	Fixed Rate	Variable Rate[1]	**At December 31, 2018**	At December 31, 2017
Original maturities of one year or less:						
Next 12 months	**$ —**	**$ —**	**$ —**	**$ 1,545**	**$ 1,545**	$ 1,519
Original maturities greater than one year:						
2018	**$ —**	**$ —**	**$ —**	**$ —**	**$ —**	$ 23,870
2019	**12,749**	**7,100**	**26**	**4,819**	**24,694**	24,549
2020	**10,957**	**7,618**	**13**	**2,692**	**21,280**	21,414
2021	**13,434**	**7,774**	**18**	**3,416**	**24,642**	19,063
2022	**6,450**	**8,519**	**16**	**1,800**	**16,785**	17,586
2023	**8,419**	**3,134**	**13**	**2,372**	**13,938**	9,868
Thereafter	**55,966**	**14,127**	**131**	**16,554**	**86,778**	74,713
Total	**$ 107,975**	**$ 48,272**	**$ 217**	**$ 31,653**	**$ 188,117**	$ 191,063
Total borrowings	**$ 107,975**	**$ 48,272**	**$ 217**	**$ 33,198**	**$ 189,662**	$ 192,582
Weighted average coupon at period end[2]	**3.8%**	**2.6%**	**6.4%**	**N/M**	**3.5%**	3.3%

1. Variable rate borrowings bear interest based on a variety of indices, including LIBOR and federal funds rates. Amounts include notes carried at fair value with various payment provisions, including notes linked to the performance of a specific index, a basket of stocks, a specific equity security, a commodity, a credit exposure or basket of credit exposures, and instruments with various interest-rate-related features including step-ups, step-downs, and zero coupons.
2. Includes only borrowings with original maturities greater than one year. Weighted average coupon is calculated utilizing U.S. and non-U.S. dollar interest rates and excludes financial instruments for which the fair value option was elected. Virtually all of the variable rate notes issued by subsidiaries are carried at fair value so a weighted average coupon is not meaningful.

Borrowings with Original Maturities Greater than One Year

$ in millions	At December 31, 2018	At December 31, 2017
Senior	**$ 178,027**	$ 180,835
Subordinated	**10,090**	10,228
Total	**$ 188,117**	$ 191,063
Weighted average stated maturity, in years	**6.5**	6.6

Certain senior debt securities are denominated in various non-U.S. dollar currencies and may be structured to provide a return that is linked to equity, credit, commodity or other indices (*e.g.*, the consumer price index). Senior debt also may be structured to be callable by the Firm or extendible at the option of holders of the senior debt securities.

Senior Debt—Structured Borrowings. The Firm's Borrowings include notes carried and managed on a fair value basis. These include instruments whose payments and redemption values are linked to the performance of a specific index, a basket of stocks, a specific equity security, a commodity, a credit exposure or basket of credit exposures, and instruments with various interest-rate-related features including step-ups, step-downs, and zero coupons. To minimize the exposure from such instruments, the Firm has entered into various swap contracts and purchased options that effectively convert the borrowing costs into floating rates. The Firm generally carries the entire structured borrowing at fair value. The swaps and purchased options used to economically hedge the embedded features are derivatives and also are carried at fair value. Changes in fair value related to the notes and economic hedges are reported in Trading revenues. See Notes 2 and 3 for further information on structured borrowings.

Senior Debt Subject to Put Options or Liquidity Obligations

$ in millions	At December 31, 2018	At December 31, 2017
Put options embedded in debt agreements	**$ 520**	$ 3,023
Liquidity obligations[1]	**$ 1,284**	$ 1,414

1. Includes obligations to support secondary market trading.

Subordinated Debt

	2018	2017
Contractual weighted average coupon	**4.5%**	4.5%

Subordinated debt generally is issued to meet the capital requirements of the Firm or its regulated subsidiaries and primarily is U.S. dollar denominated. Maturities of subordinated notes range from 2022 to 2027.

Asset and Liability Management

In general, other than securities inventories financed by secured funding sources, the majority of the Firm's assets are financed with a combination of deposits, short-term funding, floating rate long-term debt or fixed rate long-term debt swapped to a floating rate. The Firm uses interest rate swaps to more closely match these borrowings to the duration, holding period and interest rate characteristics of the assets being funded and to manage interest rate risk. These swaps effectively convert certain of the Firm's fixed rate borrowings into floating rate obligations. In addition, for non-U.S. dollar currency borrowings that are not used to fund assets in the same currency, the Firm has entered into currency swaps that effectively convert the borrowings into U.S. dollar obligations.

The Firm's use of swaps for asset and liability management affects its effective average borrowing rate.

Rates for Borrowings with Original Maturities Greater than One Year

	At December 31,		
	2018	2017	2016
Contractual weighted average coupon[1]	**3.5%**	3.3%	3.7%
Effective weighted average coupon after swaps	**3.6%**	2.5%	2.5%

1. Weighted average coupon was calculated utilizing U.S. and non-U.S. dollar interest rates and excludes financial instruments for which the fair value option was elected.

Other Secured Financings by Original Maturity and Type

$ in millions	At December 31, 2018	At December 31, 2017
Original maturities:		
Greater than one year	**$ 6,772**	$ 8,685
One year or less	**2,036**	2,034
Failed sales	**658**	552
Total	**$ 9,466**	$ 11,271

Maturities and Terms of Secured Financings

	At December 31, 2018			
$ in millions	Fixed Rate	Variable Rate[1]	Total	At December 31, 2017
Original maturities of one year or less:				
Next 12 months	$ **2,036**	$ **—**	$ **2,036**	$ 2,034
Original maturities greater than one year:				
2018	$ **—**	$ **—**	$ **—**	$ 4,992
2019	**159**	**5,741**	**5,900**	2,637
2020	**197**	**402**	**599**	505
2021	**1**	**—**	**1**	2
2022	**1**	**85**	**86**	151
2023	**—**	**26**	**26**	398
Thereafter	**74**	**86**	**160**	—
Total	$ **432**	$ **6,340**	$ **6,772**	$ 8,685
Weighted average coupon at period-end[2]	**3.9%**	**2.4%**	**2.5%**	1.7%

1. Variable rate borrowings bear interest based on a variety of indices, including LIBOR and federal funds rates. Amounts include notes carried at fair value with various payment provisions, including notes linked to equity, credit, commodity or other indices.
2. Includes only other secured financings with original maturities greater than one year. Weighted average coupon is calculated utilizing U.S. and non-U.S. dollar interest rates and excludes secured financings that are linked to non-interest indices and for which the fair value option was elected.

Other secured financings include the liabilities related to certain ELNs, transfers of financial assets that are accounted for as financings rather than sales, pledged commodities, consolidated VIEs where the Firm is deemed to be the primary beneficiary and other secured borrowings. These liabilities are generally payable from the cash flows of the related assets accounted for as Trading assets. See Note 13 for further information on other secured financings related to VIEs and securitization activities.

Failed Sales by Maturity

$ in millions	At December 31, 2018	At December 31, 2017
2018	$ **—**	$ 22
2019	**40**	4
2020	**62**	109
2021	**29**	69
2022	**33**	59
2023	**—**	—
Thereafter	**494**	289
Total	$ **658**	$ 552

For transfers that fail to meet the accounting criteria for a sale, the Firm continues to recognize the assets in Trading assets at fair value, and the Firm recognizes the associated liabilities in Other secured financings at fair value in the balance sheets.

The assets transferred to certain unconsolidated VIEs in transactions accounted for as failed sales cannot be removed unilaterally by the Firm and are not generally available to the Firm. The related liabilities are also non-recourse to the Firm. In certain other failed sale transactions, the Firm has the right to remove assets or provides additional recourse through derivatives such as total return swaps, guarantees or other forms of involvement.

12. Commitments, Guarantees and Contingencies

Commitments

	Years to Maturity at December 31, 2018				
$ in millions	Less than 1	1-3	3-5	Over 5	Total
Lending:					
Corporate	$ **12,132**	$ **30,294**	$ **47,955**	$ **6,910**	$ **97,291**
Consumer	**7,145**	**1**	**11**	**—**	**7,157**
Residential and wholesale real estate	**75**	**544**	**408**	**253**	**1,280**
Forward-starting secured financing receivables	**85,541**	**—**	**—**	**3,700**	**89,241**
Underwriting	**687**	**—**	**—**	**—**	**687**
Investment activities	**509**	**82**	**16**	**267**	**874**
Letters of credit and other financial guarantees	**180**	**1**	**—**	**39**	**220**
Total	$ **106,269**	$ **30,922**	$ **48,390**	$ **11,169**	$ **196,750**
Corporate lending commitments participated to third parties					$ **8,078**
Forward-starting secured financing receivables settled within three business days					$ **80,559**

Since commitments associated with these instruments may expire unused, the amounts shown do not necessarily reflect the actual future cash funding requirements.

Types of Commitments

Lending Commitments. Lending commitments primarily represent the notional amount of legally binding obligations to provide funding to clients for different types of loan transactions. This category also includes commitments in loan form provided to clearinghouses or associated depositories of which the Firm is a member and are contingent upon the default of a clearinghouse member or other stress event. For syndications that are led by the Firm, the lending commitments accepted by the borrower but not yet closed are net of the amounts agreed to by counterparties that will participate in the syndication. For syndications that the Firm participates in and does not lead, lending commitments accepted by the borrower but not yet closed include only the amount that the Firm expects it will be allocated from the lead syndicate bank. Due to the nature of the Firm's obligations under the commitments, these amounts include certain commitments participated to third parties.

Forward-Starting Secured Financing Receivables. This amount includes securities purchased under agreements to resell and securities borrowed that the Firm has entered into prior to the balance sheet date that will settle after the balance sheet date. Also included are commitments to enter into securities purchased under agreements to resell that are provided to certain clearinghouses or associated depositories of which the Firm is a member and are contingent upon the default of a clearinghouse member or other stress event. These transactions are primarily secured by collateral from U.S. government agency securities and other sovereign government obligations when they are funded.

Underwriting Commitments. The Firm provides underwriting commitments in connection with its capital raising sources to a diverse group of corporate and other institutional clients.

Investment Activities. The Firm sponsors several non-consolidated investment management funds for third-party investors where it typically acts as general partner of, and investment advisor to, these funds and typically commits to invest a minority of the capital of such funds, with subscribing third-party investors contributing the majority. The Firm has contractual capital commitments, guarantees and counterparty arrangements with respect to these investment management funds.

Letters of Credit and Other Financial Guarantees. The Firm has outstanding letters of credit and other financial guarantees issued by third-party banks to certain of the Firm's counterparties. The Firm is contingently liable for these letters of credit and other financial guarantees, which are primarily used to provide collateral for securities and commodities traded and to satisfy various margin requirements in lieu of depositing cash or securities with these counterparties.

Premises and Equipment. The Firm has non-cancelable operating leases covering premises and equipment. Future minimum rental commitments under such leases (net of sublease commitments, principally on office rentals) were as follows:

Operating Premises Leases

$ in millions	At December 31, 2018
2019	$ 677
2020	657
2021	602
2022	555
2023	507
Thereafter	2,639
Total	$ 5,637
Total minimum rental income to be received in the future under non-cancelable operating subleases	$ 7

$ in millions	2018	2017	2016
Rent expense	$ 753	$ 704	$ 689

Occupancy lease agreements, in addition to base rentals, generally provide for rent and operating expense escalations resulting from increased assessments for real estate taxes and other charges.

Guarantees

Obligations under Guarantee Arrangements at December 31, 2018

	Maximum Potential Payout/Notional				
	Years to Maturity				
$ in millions	Less than 1	1-3	3-5	Over 5	Total
Credit derivatives	$ 42,347	$ 50,658	$ 102,231	$ 28,793	$ 224,029
Other credit contracts	—	—	—	116	116
Non-credit derivatives	1,826,642	1,398,077	454,910	600,312	4,279,941
Standby letters of credit and other financial guarantees issued[1]	1,017	978	1,326	4,914	8,235
Market value guarantees	83	126	26	—	235
Liquidity facilities	4,449	—	—	—	4,449
Whole loan sales guarantees	—	1	—	23,210	23,211
Securitization representations and warranties	—	—	—	63,552	63,552
General partner guarantees	9	112	160	44	325

$ in millions	Carrying Amount (Asset)/ Liability	Collateral/ Recourse
Credit derivatives[2]	$ 1,384	$ —
Other credit contracts	14	—
Non-credit derivatives[2]	53,434	—
Standby letters of credit and other financial guarantees issued[1]	(226)	6,901
Market value guarantees	—	124
Liquidity facilities	(5)	7,353
Whole loan sales guarantees	9	—
Securitization representations and warranties[3]	42	—
General partner guarantees	71	—

1. These amounts include certain issued standby letters of credit participated to third parties, totaling $0.6 billion of notional and collateral/recourse, due to the nature of the Firm's obligations under these arrangements.
2. Carrying amounts of derivative contracts are shown on a gross basis prior to cash collateral or counterparty netting. For further information on derivative contracts, see Note 4.
3. Primarily related to residential mortgage securitizations.

Types of Guarantees

Derivative Contracts. Certain derivative contracts meet the accounting definition of a guarantee, including certain written options, contingent forward contracts and CDS (see Note 4 regarding credit derivatives in which the Firm has sold credit protection to the counterparty). All derivative contracts that could meet this accounting definition of a guarantee are included in the previous table, with the notional amount used as the maximum potential payout for certain derivative contracts, such as written interest rate caps and written foreign currency options.

In certain situations, collateral may be held by the Firm for those contracts that meet the definition of a guarantee. Generally, the Firm sets collateral requirements by counterparty so that the collateral covers various transactions and products and is not allocated specifically to individual contracts. Also, the Firm may recover amounts related to the underlying asset delivered to the Firm under the derivative contract.

Standby Letters of Credit and Other Financial Guarantees Issued. In connection with its corporate lending business and other corporate activities, the Firm provides standby letters of credit and other financial guarantees to counterparties. Such arrangements represent obligations to make payments to third parties if the counterparty fails to fulfill its obligation under a borrowing arrangement or other contractual obligation. A majority of the Firm's standby letters of credit are provided on behalf of counterparties that are investment grade.

Market Value Guarantees. Market value guarantees are issued to guarantee timely payment of a specified return to investors in certain affordable housing tax credit funds. These guarantees are designed to return an investor's contribution to a fund and the investor's share of tax losses and tax credits expected to be generated by a fund.

Liquidity Facilities. The Firm has entered into liquidity facilities with SPEs and other counterparties, whereby the Firm is required to make certain payments if losses or defaults occur. Primarily, the Firm acts as liquidity provider to municipal bond securitization SPEs and for standalone municipal bonds in which the holders of beneficial interests issued by these SPEs or the holders of the individual bonds, respectively, have the right to tender their interests for purchase by the Firm on specified dates at a specified price. The Firm often may have recourse to the underlying assets held by the SPEs in the event payments are required under such liquidity facilities, as well as make-whole or recourse provisions with the trust sponsors. Primarily all of the underlying assets in the SPEs are investment grade. Liquidity facilities provided to municipal tender option bond trusts are classified as derivatives.

Whole Loan Sales Guarantees. The Firm has provided, or otherwise agreed to be responsible for, representations and warranties regarding certain whole loan sales. Under certain circumstances, the Firm may be required to repurchase such assets or make other payments related to such assets if such representations and warranties are breached. The Firm's maximum potential payout related to such representations and warranties is equal to the current UPB of such loans. Since the Firm no longer services these loans, it has no information on the current UPB of those loans, and accordingly, the amount included in the previous table represents the UPB at the time of the whole loan sale or at the time when the Firm last serviced any of those loans. The current UPB balances could be substantially lower than the maximum potential payout amount included in the previous table. The related liability primarily relates to sales of loans to the federal mortgage agencies.

Securitization Representations and Warranties. As part of the Firm's Institutional Securities business segment's securitizations and related activities, the Firm has provided, or otherwise agreed to be responsible for, representations and warranties regarding certain assets transferred in securitization transactions sponsored by the Firm. The extent and nature of the representations and warranties, if any, vary among different securitizations. Under certain circumstances, the Firm may be required to repurchase certain assets or make other payments related to such assets if such representations and warranties are breached. The maximum potential amount of future payments the Firm could be required to make would be equal to the current outstanding balances of, or losses associated with, the assets subject to breaches of such representations and warranties. The amount included in the previous table for the maximum potential payout includes the current UPB or historical losses where known, and the UPB at the time of sale when the current UPB is not known.

General Partner Guarantees. As a general partner in certain investment management funds, the Firm receives certain distributions from the partnerships related to achieving certain return hurdles according to the provisions of the partnership agreements. The Firm may be required to return all or a portion of such distributions to the limited partners in the event the limited partners do not achieve a certain return as specified in the various partnership agreements, subject to certain limitations.

Other Guarantees and Indemnities

In the normal course of business, the Firm provides guarantees and indemnifications in a variety of transactions. These provisions generally are standard contractual terms. Certain of these guarantees and indemnifications are described below:

- *Indemnities.* The Firm provides standard indemnities to counterparties for certain contingent exposures and taxes, including U.S. and foreign withholding taxes, on interest and other payments made on derivatives, securities and stock lending transactions, certain annuity products and other financial arrangements. These indemnity payments could be required based on a change in the tax laws, a change in interpretation of applicable tax rulings or a change in factual circumstances. Certain contracts contain provisions that enable the Firm to terminate the agreement upon the occurrence of such events. The maximum potential amount of future payments that the Firm could be required to make under these indemnifications cannot be estimated.

- *Exchange/Clearinghouse Member Guarantees.* The Firm is a member of various U.S. and non-U.S. exchanges and clearinghouses that trade and clear securities and/or derivative contracts. Associated with its membership, the Firm may be required to pay a certain amount as determined by the exchange or the clearinghouse in case of a default of any of its members or pay a proportionate share of the financial obligations of another member that may default on its obligations to the exchange or the clearinghouse. While the rules governing different exchange or clearinghouse memberships and the forms of these guarantees may vary, in general the Firm's obligations under these rules would arise only if the exchange or clearinghouse had previously exhausted its resources.

  In addition, some clearinghouse rules require members to assume a proportionate share of losses resulting from the clearinghouse's investment of guarantee fund contributions and initial margin, and of other losses unrelated to the default of a clearing member, if such losses exceed the specified resources allocated for such purpose by the clearinghouse.

  The maximum potential payout under these rules cannot be estimated. The Firm has not recorded any contingent liability in its financial statements for these agreements and believes that any potential requirement to make payments under these agreements is remote.

- *Merger and Acquisition Guarantees.* The Firm may, from time to time, in its role as investment banking advisor be required to provide guarantees in connection with certain European merger and acquisition transactions. If required by the regulating authorities, the Firm provides a guarantee that the acquirer in the merger and acquisition transaction has or will have sufficient funds to complete the transaction and would then be required to make the acquisition payments in the event the acquirer's funds are insufficient at the completion date of the transaction. These arrangements generally cover the time frame from the transaction offer date to its closing date and, therefore, are generally short term in nature. The Firm believes the likelihood of any payment by the Firm under these arrangements is remote given the level of its due diligence in its role as investment banking advisor.

In addition, in the ordinary course of business, the Firm guarantees the debt and/or certain trading obligations (including obligations associated with derivatives, foreign exchange contracts and the settlement of physical commodities) of certain subsidiaries. These guarantees generally are entity or product specific and are required by investors or trading counterparties. The activities of the Firm's subsidiaries covered by these guarantees (including any related debt or trading obligations) are included in the financial statements.

Contingencies

Legal. In addition to the matters described below, in the normal course of business, the Firm has been named, from time to time, as a defendant in various legal actions, including arbitrations, class actions and other litigation, arising in connection with its activities as a global diversified financial services institution. Certain of the actual or threatened legal actions include claims for substantial compensatory and/or punitive damages or claims for indeterminate amounts of damages. In some cases, the entities that would otherwise be the primary defendants in such cases are bankrupt or are in financial distress. These actions have included, but are not limited to, residential mortgage and credit crisis-related matters.

While the Firm has identified below any individual proceedings where the Firm believes a material loss to be reasonably possible and reasonably estimable, there can be no assurance that material losses will not be incurred from claims that have not yet been asserted or are not yet determined to be probable or possible and reasonably estimable losses.

The Firm contests liability and/or the amount of damages as appropriate in each pending matter. Where available information indicates that it is probable a liability had been incurred at the date of the financial statements and the Firm can reasonably estimate the amount of that loss, the Firm accrues the estimated loss by a charge to income.

$ in millions	**2018**	2017	2016
Legal expenses	**$ 206**	$ 342	$ 263

The Firm's future legal expenses may fluctuate from period to period, given the current environment regarding government investigations and private litigation affecting global financial services firms, including the Firm.

In many proceedings and investigations, however, it is inherently difficult to determine whether any loss is probable or even possible or to estimate the amount of any loss. In addition, even where a loss is possible or an exposure to loss exists in excess of the liability already accrued with respect to a previously recognized loss contingency, it is not always possible to reasonably estimate the size of the possible loss or range of loss.

For certain legal proceedings and investigations, the Firm cannot reasonably estimate such losses, particularly for proceedings and investigations where the factual record is being developed or contested or where plaintiffs or government entities seek substantial or indeterminate damages, restitution, disgorgement or penalties. Numerous issues may need to be resolved, including through potentially lengthy discovery and determination of important factual matters, determination of issues related to class certification and the calculation of damages or other relief, and by addressing novel or unsettled legal questions relevant to the proceedings or investigations in question, before a loss or additional loss or range of loss or additional range of loss can be reasonably estimated for a proceeding or investigation.

For certain other legal proceedings and investigations, the Firm can estimate reasonably possible losses, additional losses, ranges of loss or ranges of additional loss in excess of amounts accrued but does not believe, based on current knowledge and after consultation with counsel, that such losses will have a material adverse effect on the Firm's financial statements as a whole, other than the matters referred to in the following paragraphs.

On July 15, 2010, China Development Industrial Bank ("CDIB") filed a complaint against the Firm, styled *China Development Industrial Bank v. Morgan Stanley & Co. Incorporated et al.*, which is pending in the Supreme Court of the State of New York, New York County ("Supreme Court of NY"). The complaint relates to a $275 million CDS referencing the super senior portion of the STACK 2006-1 CDO. The complaint asserts claims for common law fraud, fraudulent inducement and fraudulent concealment and alleges that the Firm misrepresented the risks of the STACK 2006-1 CDO to CDIB, and that the Firm knew that the assets backing the CDO were of poor quality when it entered into the CDS with CDIB. The complaint seeks compensatory damages related to the approximately $228 million that CDIB alleges it has already lost under the CDS, rescission of CDIB's obligation to pay an additional $12 million, punitive damages, equitable relief, fees and costs. On February 28, 2011, the court denied the Firm's motion to dismiss the complaint. On December 21, 2018, the court denied the Firm's motion for summary judgment and granted in part the Firm's motion for sanctions relating to spoliation of evidence. Based on currently available information, the Firm believes it could incur a loss in this action of up to approximately $240 million plus pre- and post-judgment interest, fees and costs. On January 18, 2019, CDIB filed a motion to clarify and resettle the portion of the court's December 21, 2018 order granting spoliation sanctions. On January 24, 2019, CDIB filed a notice of appeal from the court's December 21, 2018 order, and on January 25, 2019, the Firm filed a notice of appeal from the same order.

On July 8, 2013, U.S. Bank National Association, in its capacity as trustee, filed a complaint against the Firm styled *U.S. Bank National Association, solely in its capacity as Trustee of the Morgan Stanley Mortgage Loan Trust 2007-2AX (MSM 2007-2AX) v. Morgan Stanley Mortgage Capital Holdings LLC, Successor-by-Merger to Morgan Stanley Mortgage Capital Inc. and GreenPoint Mortgage Funding, Inc.*, pending in the Supreme Court of NY. The complaint asserts claims for breach of contract and alleges, among other things, that the loans in the trust, which had an original principal balance of approximately $650 million, breached various representations and warranties. The complaint seeks, among other relief, specific performance of the loan breach remedy procedures in the transaction documents, unspecified damages and interest. On August 22, 2013, the Firm filed a motion to dismiss the complaint, which was granted in part and denied in part on November 24, 2014. On August 13, 2018, the Firm filed a motion to renew its motion to dismiss. Based on currently available information, the Firm believes that it could incur a loss in this action of up to approximately $240 million, the total original unpaid balance of the mortgage loans for which the Firm received repurchase demands that it did not repurchase, plus pre- and post-judgment interest, fees and costs, but plaintiff is seeking to expand the number of loans at issue and the possible range of loss could increase.

On September 19, 2014, Financial Guaranty Insurance Company ("FGIC") filed a complaint against the Firm in the Supreme Court of NY, styled *Financial Guaranty Insurance Company v. Morgan Stanley ABS Capital I Inc. et al.* relating to a securitization issued by Basket of Aggregated Residential NIMS 2007-1 Ltd. The complaint asserts claims for breach of contract and alleges, among other things, that the net interest margin securities ("NIMS") in the trust breached various representations and warranties. FGIC issued a financial guaranty policy with respect to certain notes that had an original balance of approximately $475 million. The complaint seeks, among other relief, specific performance of the NIMS breach remedy procedures in the transaction documents, unspecified damages, reimbursement of certain payments made pursuant to the transaction documents, attorneys' fees and interest. On November 24, 2014, the Firm filed a motion to dismiss the complaint, which the court denied on January 19, 2017. On September 13, 2018, the Appellate Division, First Department, affirmed the lower court's order denying the Firm's motion to dismiss. Based on currently available information, the Firm believes that it could incur a loss in this action of up to approximately $126 million, the unpaid balance of these notes, plus pre- and post-judgment interest, fees and costs, as well as claim payments that FGIC has made and will make in the future.

On September 23, 2014, FGIC filed a complaint against the Firm in the Supreme Court of NY styled *Financial Guaranty Insurance Company v. Morgan Stanley ABS Capital I Inc. et al.* relating to the Morgan Stanley ABS Capital I Inc. Trust 2007-NC4. The complaint asserts claims for breach of contract and fraudulent inducement and alleges, among other things, that the loans in the trust breached various representations and warranties and defendants made untrue statements and material omissions to induce FGIC to issue a financial guaranty policy on certain classes of certificates that had an original balance of approximately $876 million. The complaint seeks, among other relief, specific performance of the loan breach remedy procedures in the transaction documents, compensatory, consequential and punitive damages, attorneys' fees and interest. On January 23, 2017, the court denied the Firm's motion to dismiss the complaint. On September 13, 2018, the Appellate Division, First Department, affirmed in part and reversed in part the lower court's order denying the Firm's motion to dismiss. On December 20, 2018, the Appellate Division denied plaintiff's motion for leave to appeal the decision of the Appellate Division, First Department, to the New York Court of Appeals or, in the alternative, for reargument. Based on currently available information, the Firm believes that it could incur a loss in this action of up to approximately $277 million, the total original unpaid balance of the mortgage loans for which the Firm received repurchase demands from a certificate holder and FGIC that the Firm did not repurchase, plus pre- and post-judgment interest, fees and costs, as well as claim payments that FGIC has made and will make in the future. In addition, plaintiff is seeking to expand the number of loans at issue and the possible range of loss could increase.

On January 23, 2015, Deutsche Bank National Trust Company, in its capacity as trustee, filed a complaint against the Firm styled *Deutsche Bank National Trust Company solely in its capacity as Trustee of the Morgan Stanley ABS Capital I Inc. Trust 2007-NC4 v. Morgan Stanley Mortgage Capital Holdings LLC as Successor-by-Merger to Morgan Stanley Mortgage Capital Inc., and Morgan Stanley ABS Capital I Inc.*, pending in the Supreme Court of NY. The complaint asserts claims for breach of contract and alleges, among other things, that the loans in the trust, which had an original principal balance of approximately $1.05 billion, breached various representations and warranties. The complaint seeks, among other relief, specific performance of the loan breach remedy procedures in the transaction documents, compensatory, consequential, rescissory, equitable and punitive damages, attorneys' fees, costs and other related expenses, and interest. On December 11, 2015, the court granted in part and denied in part the Firm's motion to dismiss the complaint. On October 19, 2018, the court granted the Firm's motion for leave to amend its answer and to stay the case pending resolution of Deutsche Bank National Trust Company's appeal to the New York Court of Appeals in another case. On January 17, 2019, the First Department reversed the trial court's order to the extent that it had granted in part the Firm's motion to dismiss the complaint. Based on currently available information, the Firm believes that it could incur a loss in this action of up to approximately $277 million, the total original unpaid balance of the mortgage loans for which the Firm received repurchase demands from a certificate holder and a monoline insurer that the Firm did not repurchase, plus pre- and post-judgment interest, fees and costs, but plaintiff is seeking to expand the number of loans at issue and the possible range of loss could increase.

In matters styled *Case number 15/3637* and *Case number 15/4353*, the Dutch Tax Authority ("Dutch Authority") has challenged, in the District Court in Amsterdam, the prior set-off by the Firm of approximately €124 million (approximately $142 million) plus accrued interest of withholding tax credits against the Firm's corporation tax liabilities for the tax years 2007 to 2013. The Dutch Authority alleges that the Firm was not entitled to receive the withholding tax credits on the basis, inter alia, that a Firm subsidiary did not hold legal title to certain securities subject to withholding tax on the relevant dates. The Dutch Authority has also alleged that the Firm failed to provide certain information to the Dutch Authority and keep adequate books and records. A hearing took place in this matter on September 19, 2017. On April 26, 2018, the District Court in Amsterdam issued a decision dismissing the Dutch Authority's claims. On June 4, 2018, the Dutch Authority filed an appeal before the Court of Appeal in Amsterdam in matters restyled *Case number 18/00318* and *Case number 18/*00319. A hearing of the Dutch Authority's appeal has been scheduled for June 26, 2019. Based on currently available information, the Firm believes that it could incur a loss in this action of up to approximately €124 million (approximately $142 million) plus accrued interest.

13. Variable Interest Entities and Securitization Activities

Overview

The Firm is involved with various SPEs in the normal course of business. In most cases, these entities are deemed to be VIEs.

The Firm's variable interests in VIEs include debt and equity interests, commitments, guarantees, derivative instruments and certain fees. The Firm's involvement with VIEs arises primarily from:

- Interests purchased in connection with market-making activities, securities held in its Investment securities portfolio and retained interests held as a result of securitization activities, including re-securitization transactions.
- Guarantees issued and residual interests retained in connection with municipal bond securitizations.
- Loans made to and investments in VIEs that hold debt, equity, real estate or other assets.
- Derivatives entered into with VIEs.

- Structuring of CLNs or other asset-repackaged notes designed to meet the investment objectives of clients.
- Other structured transactions designed to provide tax-efficient yields to the Firm or its clients.

The Firm determines whether it is the primary beneficiary of a VIE upon its initial involvement with the VIE and reassesses whether it is the primary beneficiary on an ongoing basis as long as it has any continuing involvement with the VIE. This determination is based upon an analysis of the design of the VIE, including the VIE's structure and activities, the power to make significant economic decisions held by the Firm and by other parties, and the variable interests owned by the Firm and other parties.

The power to make the most significant economic decisions may take a number of different forms in different types of VIEs. The Firm considers servicing or collateral management decisions as representing the power to make the most significant economic decisions in transactions such as securitizations or CDOs. As a result, the Firm does not consolidate securitizations or CDOs for which it does not act as the servicer or collateral manager unless it holds certain other rights to replace the servicer or collateral manager or to require the liquidation of the entity. If the Firm serves as servicer or collateral manager, or has certain other rights described in the previous sentence, the Firm analyzes the interests in the VIE that it holds and consolidates only those VIEs for which it holds a potentially significant interest in the VIE.

For many transactions, such as re-securitization transactions, CLNs and other asset-repackaged notes, there are no significant economic decisions made on an ongoing basis. In these cases, the Firm focuses its analysis on decisions made prior to the initial closing of the transaction and at the termination of the transaction. The Firm concluded in most of these transactions that decisions made prior to the initial closing were shared between the Firm and the initial investors based upon the nature of the assets, including whether the assets were issued in a transaction sponsored by the Firm and the extent of the information available to the Firm and to investors, the number, nature and involvement of investors, other rights held by the Firm and investors, the standardization of the legal documentation and the level of continuing involvement by the Firm, including the amount and type of interests owned by the Firm and by other investors. The Firm focused its control decision on any right held by the Firm or investors related to the termination of the VIE. Most re-securitization transactions, CLNs and other asset-repackaged notes have no such termination rights.

Consolidated VIEs

Assets and Liabilities by Type of Activity

	At December 31, 2018		At December 31, 2017	
$ in millions	VIE Assets	VIE Liabilities	VIE Assets	VIE Liabilities
OSF	**$ 267**	**$ —**	$ 378	$ 3
MABS[1]	**59**	**38**	249	210
Other[2]	**809**	**48**	1,174	250
Total	**$ 1,135**	**$ 86**	$ 1,801	$ 463

OSF—Other structured financings

1. Amounts include transactions backed by residential mortgage loans, commercial mortgage loans and other types of assets, including consumer or commercial assets. The value of assets is determined based on the fair value of the liabilities and the interests owned by the Firm in such VIEs as the fair values for the liabilities and interests owned are more observable.
2. Other primarily includes investment funds, certain operating entities and structured transactions. During 2018, Other included a fund managed by Mesa West Capital, LLC (which was acquired by the Firm in the first quarter of 2018), until the fund was deconsolidated in the fourth quarter of 2018 due to the termination of a credit facility provided by the Firm to this fund.

Assets and Liabilities by Balance Sheet Caption

$ in millions	**At December 31, 2018**	At December 31, 2017
Assets		
Cash and cash equivalents:		
Cash and due from banks	**$ 77**	$ 69
Restricted cash	**171**	222
Trading assets at fair value	**314**	833
Customer and other receivables	**25**	19
Goodwill	**18**	18
Intangible assets	**128**	155
Other assets	**402**	485
Total	**$ 1,135**	$ 1,801
Liabilities		
Other secured financings	**$ 64**	$ 438
Other liabilities and accrued expenses	**22**	25
Total	**$ 86**	$ 463
Noncontrolling interests	**$ 106**	$ 189

Consolidated VIE assets and liabilities are presented in the previous tables after intercompany eliminations. Most assets owned by consolidated VIEs cannot be removed unilaterally by the Firm and are not generally available to the Firm. Most related liabilities issued by consolidated VIEs are non-recourse to the Firm. In certain other consolidated VIEs, the Firm either has the unilateral right to remove assets or provides additional recourse through derivatives such as total return swaps, guarantees or other forms of involvement.

In general, the Firm's exposure to loss in consolidated VIEs is limited to losses that would be absorbed on the VIE net assets recognized in its financial statements, net of amounts absorbed by third-party variable interest holders.

Non-consolidated VIEs

	At December 31, 2018				
$ in millions	MABS	CDO	MTOB	OSF	Other
VIE assets (UPB)	**$ 71,287**	**$ 10,848**	**$ 7,014**	**$ 3,314**	**$ 19,682**
Maximum exposure to loss[1]					
Debt and equity interests	**$ 8,234**	**$ 1,169**	**$ —**	**$ 1,622**	**$ 4,645**
Derivative and other contracts	**—**	**—**	**4,449**	**—**	**1,768**
Commitments, guarantees and other	**397**	**3**	**—**	**235**	**327**
Total	**$ 8,631**	**$ 1,172**	**$ 4,449**	**$ 1,857**	**$ 6,740**
Carrying value of exposure to loss—Assets					
Debt and equity interests	**$ 8,234**	**$ 1,169**	**$ —**	**$ 1,205**	**$ 4,645**
Derivative and other contracts	**—**	**—**	**6**	**—**	**87**
Total	**$ 8,234**	**$ 1,169**	**$ 6**	**$ 1,205**	**$ 4,732**
Additional VIE assets owned[2]					**$ 11,969**
Carrying value of exposure to loss—Liabilities					
Derivative and other contracts	**$ —**	**$ —**	**$ —**	**$ —**	**$ 185**
Total	**$ —**	**$ —**	**$ —**	**$ —**	**$ 185**

	At December 31, 2017				
$ in millions	MABS	CDO	MTOB	OSF	Other
VIE assets (UPB)	$ 89,288	$ 9,807	$ 5,306	$ 3,322	$ 31,934
Maximum exposure to loss[1]					
Debt and equity interests	$ 10,657	$ 1,384	$ 80	$ 1,628	$ 4,730
Derivative and other contracts	—	—	3,333	—	1,686
Commitments, guarantees and other	1,214	668	—	164	433
Total	$ 11,871	$ 2,052	$ 3,413	$ 1,792	$ 6,849
Carrying value of exposure to loss—Assets					
Debt and equity interests	$ 10,657	$ 1,384	$ 43	$ 1,202	$ 4,730
Derivative and other contracts	—	—	5	—	184
Total	$ 10,657	$ 1,384	$ 48	$ 1,202	$ 4,914
Additional VIE assets owned[2]					$ 11,318

MTOB—Municipal tender option bonds

1. Where notional amounts are utilized in quantifying the maximum exposure related to derivatives, such amounts do not reflect changes in fair value recorded by the Firm.
2. Additional VIE assets owned represents the carrying value of total exposure to non-consolidated VIEs for which the maximum exposure to loss is less than specific thresholds, primarily interests issued by securitization SPEs. The Firm's primary risk exposure is to the most subordinate class of beneficial interest and maximum exposure to loss generally equals the fair value of the assets owned. These assets are primarily included in Trading assets and Investment securities and are measured at fair value (see Note 3). The Firm does not provide additional support in these transactions through contractual facilities, guarantees or similar derivatives.

The majority of the VIEs included in the previous tables are sponsored by unrelated parties; the Firm's involvement generally is the result of its secondary market-making activities, securities held in its Investment securities portfolio (see Note 5) and certain investments in funds.

The Firm's maximum exposure to loss is dependent on the nature of the Firm's variable interest in the VIE and is limited to:

- notional amounts of certain liquidity facilities;
- other credit support;
- total return swaps;
- written put options; and
- fair value of certain other derivatives and investments the Firm has made in the VIE.

The Firm's maximum exposure to loss in the previous tables does not include the offsetting benefit of hedges or any reductions associated with the amount of collateral held as part of a transaction with the VIE or any party to the VIE directly against a specific exposure to loss.

Liabilities issued by VIEs generally are non-recourse to the Firm.

Mortgage- and Asset-Backed Securitization Assets

	At December 31, 2018		At December 31, 2017	
$ in millions	UPB	Debt and Equity Interests	UPB	Debt and Equity Interests
Residential mortgages	**$ 6,954**	**$ 745**	$ 15,636	$ 1,272
Commercial mortgages	**42,974**	**1,237**	46,464	2,331
U.S. agency collateralized mortgage obligations	**14,969**	**3,443**	16,223	3,439
Other consumer or commercial loans	**6,390**	**2,809**	10,965	3,615
Total	**$ 71,287**	**$ 8,234**	$ 89,288	$ 10,657

Securitization Activities

In a securitization transaction, the Firm transfers assets (generally commercial or residential mortgage loans or U.S. agency securities) to an SPE, sells to investors most of the beneficial interests, such as notes or certificates, issued by the SPE, and, in many cases, retains other beneficial interests. The purchase of the transferred assets by the SPE is financed through the sale of these interests.

In many securitization transactions involving commercial mortgage loans, the Firm transfers a portion of the assets to the SPE with unrelated parties transferring the remaining assets.

In some of these transactions, primarily involving residential mortgage loans in the U.S., the Firm serves as servicer for some or all of the transferred loans. In many securitizations, particularly involving residential mortgage loans, the Firm also enters into derivative transactions, primarily interest rate swaps or interest rate caps, with the SPE.

Although not obligated, the Firm generally makes a market in the securities issued by SPEs in securitization transactions. As a market maker, the Firm offers to buy these securities from, and sell these securities to, investors. Securities purchased through these market-making activities are not considered to be retained interests; these beneficial interests generally are included in Trading assets—Corporate and other debt and are measured at fair value.

The Firm enters into derivatives, generally interest rate swaps and interest rate caps, with a senior payment priority in many securitization transactions. The risks associated with these and similar derivatives with SPEs are essentially the same as similar derivatives with non-SPE counterparties and are managed as part of the Firm's overall exposure. See Note 4 for further information on derivative instruments and hedging activities.

Available-for-Sale Securities

The Firm holds AFS issued by VIEs not sponsored by the Firm within the Investment securities portfolio. These securities are composed of those related to transactions sponsored by the federal mortgage agencies and the most senior securities issued by VIEs backed by student loans, automobile loans, commercial mortgage loans or CLOs. Transactions sponsored by the federal mortgage agencies include an explicit or implicit guarantee provided by the U.S. government. See Note 5 for further information on the Investment Securities Portfolio.

Municipal Tender Option Bond Trusts

In a municipal tender option bond trust transaction, the client transfers a municipal bond to a trust. The trust issues short-term securities that the Firm, as the remarketing agent, sells to investors. The client generally retains a residual interest. The short-term securities are supported by a liquidity facility pursuant to which the investors may put their short-term interests. In some programs, the Firm provides this liquidity facility; in most programs, a third-party provider will provide such liquidity facility.

The Firm may, in lieu of purchasing short term securities for remarketing, decide to extend a temporary loan to the trust. The client can generally terminate the transaction at any time. The liquidity provider can generally terminate the transaction upon the occurrence of certain events. When the transaction is terminated, the municipal bond is generally sold or returned to the client. Any losses suffered by the liquidity provider upon the sale of the bond are the responsibility of the client. This obligation is generally collateralized. Liquidity facilities provided to municipal tender option bond trusts are classified as derivatives. The Firm consolidates any municipal tender option bond trusts in which it holds the residual interest.

Credit Protection Purchased through Credit-Linked Notes

CLN transactions are designed to provide investors with exposure to certain credit risk on referenced asset. In these transactions, the Firm transfers assets (generally high-quality securities or money market investments) to an SPE, enters into a derivative transaction in which the SPE sells protection on an unrelated referenced asset or group of assets, through a credit derivative, and sells the securities issued by the SPE to investors. In some transactions, the Firm may also enter into interest rate or currency swaps with the SPE.

Upon the occurrence of a credit event related to the referenced asset, the SPE will deliver securities collateral as payment to the Firm, which exposes the Firm to changes in the collateral's value. Depending on the structure, the assets and liabilities of the SPE may be recognized in the Firm's balance sheets or accounted for as a sale of assets and the SPE is not consolidated.

Derivative payments by the SPE are collateralized. The risks associated with these and similar derivatives with SPEs are essentially the same as those with non-SPE counterparties, and are managed as part of the Firm's overall exposure.

Other Structured Financings

The Firm invests in interests issued by entities that develop and own low-income communities (including low-income housing projects) and entities that construct and own facilities that will generate energy from renewable resources. The interests entitle the Firm to a share of tax credits and tax losses generated by these projects. In addition, the Firm has issued guarantees to investors in certain low-income housing funds. The guarantees are designed to return an investor's contribution to a fund and the investor's share of tax losses and tax credits expected to be generated by the fund. The Firm is also involved with entities designed to provide tax-efficient yields to the Firm or its clients.

Collateralized Loan and Debt Obligations

CLOs and CDOs are SPEs that purchase a pool of assets consisting of corporate loans, corporate bonds, ABS or synthetic exposures on similar assets through derivatives, and issues multiple tranches of debt and equity securities to investors. The Firm underwrites the securities issued in CLO transactions on behalf of unaffiliated sponsors and provides advisory services to these unaffiliated sponsors. The Firm sells corporate loans to many of these SPEs, in some cases representing a significant portion of the total assets purchased. Although not obligated, the Firm generally makes a market in the securities issued by SPEs in these transactions and may retain unsold securities. These beneficial interests are included in Trading assets and are measured at fair value.

Equity-Linked Notes

ELN transactions are designed to provide investors with exposure to certain risks related to the specific equity security, equity index or other index. In an ELN transaction, the Firm typically transfers to an SPE either a note issued by the Firm, the payments on which are linked to the performance of a specific equity security, equity index, or other index, or debt securities issued by other companies and a derivative contract, the terms of which will relate to the performance of a specific equity security, equity index or other index. These ELN transactions with SPEs were not consolidated at December 31, 2018 and December 31, 2017.

Transfers of Assets with Continuing Involvement

	At December 31, 2018			
$ in millions	RML	CML	U.S. Agency CMO	CLN and Other[1]
SPE assets (UPB)[2]	**$ 14,376**	**$ 68,593**	**$ 16,594**	**$ 14,608**
Retained interests				
Investment grade	**$ 17**	**$ 483**	**$ 1,573**	**$ 3**
Non-investment grade (fair value)	**4**	**212**	**—**	**210**
Total	**$ 21**	**$ 695**	**$ 1,573**	**$ 213**
Interests purchased in the secondary market (fair value)				
Investment grade	**$ 7**	**$ 91**	**$ 102**	**$ —**
Non-investment grade	**28**	**71**	**—**	**—**
Total	**$ 35**	**$ 162**	**$ 102**	**$ —**
Derivative assets (fair value)	**$ —**	**$ —**	**$ —**	**$ 216**
Derivative liabilities (fair value)	**—**	**—**	**—**	**178**

	At December 31, 2017			
$ in millions	RML	CML	U.S. Agency CMO	CLN and Other[1]
SPE assets (UPB)[2]	$ 15,555	$ 62,744	$ 11,612	$ 17,060
Retained interests				
Investment grade	$ —	$ 293	$ 407	$ 4
Non-investment grade (fair value)	1	98	—	478
Total	$ 1	$ 391	$ 407	$ 482
Interests purchased in the secondary market (fair value)				
Investment grade	$ —	$ 94	$ 439	$ —
Non-investment grade	16	66	—	4
Total	$ 16	$ 160	$ 439	$ 4
Derivative assets (fair value)	$ 1	$ —	$ —	$ 226
Derivative liabilities (fair value)	—	—	—	85

RML—Residential mortgage loans
CML—Commercial mortgage loans
1. Amounts include CLO transactions managed by unrelated third parties.
2. Amounts include assets transferred by unrelated transferors.

	Fair Value at December 31, 2018		
$ in millions	Level 2	Level 3	Total
Retained interests			
Investment grade	**$ 1,580**	**$ 13**	**$ 1,593**
Non-investment grade	**174**	**252**	**426**
Total	**$ 1,754**	**$ 265**	**$ 2,019**
Interests purchased in the secondary market			
Investment grade	**$ 193**	**$ 7**	**$ 200**
Non-investment grade	**83**	**16**	**99**
Total	**$ 276**	**$ 23**	**$ 299**
Derivative assets	**$ 121**	**$ 95**	**$ 216**
Derivative liabilities	**175**	**3**	**178**

	Fair Value at December 31, 2017		
$ in millions	Level 2	Level 3	Total
Retained interests			
Investment grade	$ 407	$ 4	$ 411
Non-investment grade	22	555	577
Total	$ 429	$ 559	$ 988
Interests purchased in the secondary market			
Investment grade	$ 531	$ 2	$ 533
Non-investment grade	57	29	86
Total	$ 588	$ 31	$ 619
Derivative assets	$ 78	$ 149	$ 227
Derivative liabilities	81	4	85

The previous tables include transactions with SPEs in which the Firm, acting as principal, transferred financial assets with continuing involvement and received sales treatment.

Transferred assets are carried at fair value prior to securitization, and any changes in fair value are recognized in the income statements. The Firm may act as underwriter of the beneficial interests issued by these securitization vehicles, for which Investment banking revenues are recognized. The Firm may retain interests in the securitized financial assets as one or more tranches of the securitization. These retained interests are generally carried at fair value in the balance sheets with changes in fair value recognized in the income statements.

Proceeds from New Securitization Transactions and Sales of Loans

$ in millions	2018	2017	2016
New transactions[1]	**$ 23,821**	$ 23,939	$ 18,975
Retained interests	**2,904**	2,337	2,701
Sales of corporate loans to CLO SPEs[1, 2]	**317**	191	475

1. Net gains on new transactions and sales of corporate loans to CLO entities at the time of the sale were not material for all periods presented.
2. Sponsored by non-affiliates.

The Firm has provided, or otherwise agreed to be responsible for, representations and warranties regarding certain assets transferred in securitization transactions sponsored by the Firm (see Note 12).

Assets Sold with Retained Exposure

$ in millions	At December 31, 2018	At December 31, 2017
Gross cash proceeds from sale of assets[1]	**$ 27,121**	$ 19,115
Fair value		
Assets sold	**$ 26,524**	$ 19,138
Derivative assets recognized in the balance sheets	**164**	176
Derivative liabilities recognized in the balance sheets	**763**	153

1. The carrying value of assets derecognized at the time of sale approximates gross cash proceeds.

The Firm enters into transactions in which it sells securities, primarily equities and contemporaneously enters into bilateral OTC derivatives with the purchasers of the securities, through which it retains exposure to the sold securities.

14. Regulatory Requirements

Regulatory Capital Framework

The Firm is an FHC under the Bank Holding Company Act of 1956, as amended, and is subject to the regulation and oversight of the Board of Governors of the Federal Reserve System ("Federal Reserve"). The Federal Reserve establishes capital requirements for the Firm, including well-capitalized standards, and evaluates the Firm's compliance with such capital requirements. The OCC establishes similar capital requirements and standards for MSBNA and MSPBNA (collectively, the "U.S. Bank Subsidiaries"). The regulatory capital requirements are largely based on the Basel III capital standards established by the Basel Committee on Banking Supervision and also implement certain provisions of the Dodd-Frank Wall Street Reform and Consumer Protection Act.

Regulatory Capital Requirements

The Firm is required to maintain minimum risk-based and leverage-based capital ratios under regulatory capital requirements. A summary of the calculations of regulatory capital, RWA and transition provisions follows.

Minimum risk-based capital ratio requirements apply to Common Equity Tier 1 capital, Tier 1 capital and Total capital (which includes Tier 2 capital). Certain adjustments to and deductions from capital are required for purposes of determining these ratios, such as goodwill, intangible assets, certain deferred tax assets, other amounts in AOCI and investments in the capital instruments of unconsolidated financial institutions.

In addition to the minimum risk-based capital ratio requirements, the Firm is subject to the following buffers in 2019:

- A greater than 2.5% Common Equity Tier 1 capital conservation buffer;
- The Common Equity Tier 1 G-SIB capital surcharge, currently at 3%; and
- Up to a 2.5% Common Equity Tier 1 CCyB, currently set by U.S. banking agencies at zero.

In 2018 and 2017, each of the buffers was 75% and 50%, respectively, of the fully phased-in 2019 requirement noted above. Failure to maintain the buffers would result in restrictions on the Firm's ability to make capital distributions, including the payment of dividends and the repurchase of stock, and to pay discretionary bonuses to executive officers.

Risk-Weighted Assets

RWA reflects both the Firm's on- and off-balance sheet risk, as well as capital charges attributable to the risk of loss arising from the following:

- Credit risk: The failure of a borrower, counterparty or issuer to meet its financial obligations to the Firm;
- Market risk: Adverse changes in the level of one or more market prices, rates, indices, volatilities, correlations or other market factors, such as market liquidity; and
- Operational risk: Inadequate or failed processes or systems, from human factors or from external events (*e.g.*, fraud, theft, legal and compliance risks, cyber attacks or damage to physical assets).

The Firm's risk-based capital ratios for purposes of determining regulatory compliance are the lower of the capital ratios computed under (i) the standardized approaches for calculating credit risk and market risk RWA ("Standardized Approach") and (ii) the applicable advanced approaches for calculating credit risk, market risk and operational risk RWA ("Advanced Approach"). At December 31, 2018, the Firm's risk-based capital ratios are based on the Standardized Approach rules, while at December 31, 2017, the ratios were based on the Standardized Approach transitional rules.

The Firm's Regulatory Capital and Capital Ratios

	At December 31, 2018		
$ in millions	Required Ratio[1]	Amount	Ratio
Risk-based capital			
Common Equity Tier 1 capital	**8.6%**	**$ 62,086**	**16.9%**
Tier 1 capital	**10.1%**	**70,619**	**19.2%**
Total capital	**12.1%**	**80,052**	**21.8%**
Total RWA		**367,309**	
Leverage-based capital			
Tier 1 leverage	**4.0%**	**$ 70,619**	**8.4%**
Adjusted average assets[2]		**843,074**	
SLR[3]	**5.0%**	**70,619**	**6.5%**
Supplementary leverage exposure[4]		**1,092,672**	

	At December 31, 2017		
$ in millions	Required Ratio[1]	Amount	Ratio[5]
Risk-based capital			
Common Equity Tier 1 capital	7.3%	$ 61,134	16.5%
Tier 1 capital	8.8%	69,938	18.9%
Total capital	10.8%	80,275	21.7%
Total RWA		369,578	
Leverage-based capital			
Tier 1 leverage	4.0%	$ 69,938	8.3%
Adjusted average assets[2]		842,270	

1. Percentages represent minimum required regulatory capital ratios—for risk-based capital, the ratios are under the transitional rules.
2. Adjusted average assets represents the denominator of the Tier 1 leverage ratio and is composed of the average daily balance of consolidated on-balance sheet assets under U.S. GAAP during the quarters ended December 31, 2018 and December 31, 2017, adjusted for disallowed goodwill, intangible assets, certain deferred tax assets, certain investments in the capital instruments of unconsolidated financial institutions and other adjustments.
3. The SLR became effective as a capital standard on January 1, 2018.
4. Supplementary leverage exposure is the sum of Adjusted average assets used in the Tier 1 leverage ratio and other adjustments, primarily (i) potential future exposure for derivative exposures, gross-up for cash collateral netting where qualifying criteria are not met, and the effective notional principal amount of sold credit protection offset by qualifying purchased credit protection; (ii) the counterparty credit risk for repo-style transactions; and (iii) the credit equivalent amount for off-balance sheet exposures.
5. For risk- and leverage-based capital, regulatory compliance at December 31, 2017 was determined based on capital ratios calculated under transitional rules.

U.S. Bank Subsidiaries' Regulatory Capital and Capital Ratios

The OCC establishes capital requirements for the Firm's U.S. Bank Subsidiaries and evaluates their compliance with such capital requirements. Regulatory capital requirements for the U.S. Bank Subsidiaries are calculated in a similar manner to the Firm's regulatory capital requirements, although G-SIB capital surcharge requirements do not apply to the U.S. Bank Subsidiaries.

The OCC's regulatory capital framework includes Prompt Corrective Action ("PCA") standards, including "well-capitalized" PCA standards that are based on specified regulatory capital ratio minimums. For the Firm to remain an FHC, the U.S. Bank Subsidiaries must remain well-capitalized in accordance with the OCC's PCA standards. In addition, failure by the U.S. Bank Subsidiaries to meet minimum capital requirements may result in certain mandatory and discretionary actions by regulators that, if undertaken, could have a direct material effect on the U.S. Bank Subsidiaries' and the Firm's financial statements.

At December 31, 2018, the U.S. Bank Subsidiaries' risk-based capital ratios are based on the Standardized Approach rules, while at December 31, 2017, the ratios were based on the Standardized Approach transitional rules. In each period, the ratios exceeded well-capitalized requirements.

MSBNA's Regulatory Capital

	At December 31, 2018		
$ in millions	Required Ratio[1]	Amount	Ratio
Risk-based capital			
Common Equity Tier 1 capital	**6.5%**	**$ 15,221**	**19.5%**
Tier 1 capital	**8.0%**	**15,221**	**19.5%**
Total capital	**10.0%**	**15,484**	**19.8%**
Leverage-based capital			
Tier 1 leverage	**5.0%**	**$ 15,221**	**10.5%**
SLR[2]	**6.0%**	**15,221**	**8.2%**

	At December 31, 2017		
$ in millions	Required Ratio[1]	Amount	Ratio[3]
Risk-based capital			
Common Equity Tier 1 capital	6.5%	$ 15,196	20.5%
Tier 1 capital	8.0%	15,196	20.5%
Total capital	10.0%	15,454	20.8%
Leverage-based capital			
Tier 1 leverage	5.0%	$ 15,196	11.8%

MSPBNA's Regulatory Capital

	At December 31, 2018		
$ in millions	Required Ratio[1]	Amount	Ratio
Risk-based capital			
Common Equity Tier 1 capital	**6.5%**	**$ 7,183**	**25.2%**
Tier 1 capital	**8.0%**	**7,183**	**25.2%**
Total capital	**10.0%**	**7,229**	**25.4%**
Leverage-based capital			
Tier 1 leverage	**5.0%**	**$ 7,183**	**10.0%**
SLR[2]	**6.0%**	**7,183**	**9.6%**

	At December 31, 2017		
$ in millions	Required Ratio[1]	Amount	Ratio[3]
Risk-based capital			
Common Equity Tier 1 capital	6.5%	$ 6,215	24.4%
Tier 1 capital	8.0%	6,215	24.4%
Total capital	10.0%	6,258	24.6%
Leverage-based capital			
Tier 1 leverage	5.0%	$ 6,215	9.7%

1. Ratios that are required in order to be considered well-capitalized for U.S. regulatory purposes.
2. The SLR became effective as a capital standard on January 1, 2018.
3. For risk- and leverage-based capital, regulatory compliance at December 31, 2017 was determined based on capital ratios calculated under transitional rules.

U.S. Broker-Dealer Regulatory Capital Requirements

MS&Co. Regulatory Capital

$ in millions	**At December 31, 2018**	At December 31, 2017
Net capital	**$ 13,797**	$ 10,142
Excess net capital	**11,333**	8,018

MS&Co. is a registered U.S. broker-dealer and registered futures commission merchant and, accordingly, is subject to the minimum net capital requirements of the SEC and the CFTC. MS&Co. has consistently operated with capital in excess of its regulatory capital requirements.

As an Alternative Net Capital broker-dealer, and in accordance with the market and credit risk standards of Appendix E of SEC Rule 15c3-1, MS&Co. is subject to minimum net capital and tentative net capital requirements. In addition, MS&Co. must notify the SEC if its tentative net capital falls below certain levels. At December 31, 2018 and December 31, 2017, MS&Co. has exceeded its net capital requirement and has tentative net capital in excess of the minimum and notification requirements.

MSSB LLC Regulatory Capital

$ in millions	**At December 31, 2018**	At December 31, 2017
Net capital	**$ 3,455**	$ 2,567
Excess net capital	**3,313**	2,400

MSSB LLC is a registered U.S. broker-dealer and introducing broker for the futures business and, accordingly, is subject to the minimum net capital requirements of the SEC. MSSB LLC has consistently operated with capital in excess of its regulatory capital requirements.

Other Regulated Subsidiaries

MSIP, a London-based broker-dealer subsidiary, is subject to the capital requirements of the PRA, and MSMS, a Tokyo-based broker-dealer subsidiary, is subject to the capital requirements of the Financial Services Agency. MSIP and MSMS have consistently operated with capital in excess of their respective regulatory capital requirements.

Certain other U.S. and non-U.S. subsidiaries of the Firm are subject to various securities, commodities and banking regulations, and capital adequacy requirements promulgated by the regulatory and exchange authorities of the countries in which they operate. These subsidiaries have consistently operated with capital in excess of their local capital adequacy requirements.

Restrictions on Payments

The regulatory capital requirements referred to above, and certain covenants contained in various agreements governing indebtedness of the Firm, may restrict the Firm's ability to withdraw capital from its subsidiaries. The following table represents net assets of consolidated subsidiaries that may be restricted as to the payment of cash dividends and advances to the Parent Company.

$ in millions	**At December 31, 2018**	At December 31, 2017
Restricted net assets	**$ 29,222**	$ 29,894

15. Total Equity

Morgan Stanley Shareholders' Equity

Common Stock

Rollforward of Common Stock Outstanding

in millions	**2018**	2017
Shares outstanding at beginning of period	**1,788**	1,852
Treasury stock purchases[1]	**(110)**	(92)
Other[2]	**22**	28
Shares outstanding at end of period	**1,700**	1,788

1. The Firm's Board has authorized the repurchase of the Firm's outstanding stock under a share repurchase program ("Share Repurchase Program"). In addition to the Firm's Share Repurchase Program, Treasury stock purchases include repurchases of common stock for employee tax withholding.
2. Other includes net shares issued to and forfeited from Employee stock trusts and issued for RSU conversions.

Share Repurchases

$ in millions	**2018**	2017
Repurchases of common stock under the Firm's Share Repurchase Program	**$ 4,860**	$ 3,750

The Firm's 2018 Capital Plan ("Capital Plan") includes the share repurchase of up to $4.7 billion of outstanding common stock for the period beginning July 1, 2018 through June 30, 2019. Additionally, the Capital Plan includes quarterly common stock dividends of up to $0.30 per share.

On April 18, 2018, the Firm entered into a sales plan with MUFG, whereby MUFG sells shares of the Firm's common stock to the Firm, as part of the Firm's Share Repurchase Program. The sales plan is only intended to maintain MUFG's ownership percentage below 24.9% in order to comply with MUFG's passivity commitments to the Board of Governors of the Federal Reserve System and will have no impact on the strategic alliance between MUFG and the Firm, including the joint ventures in Japan.

Pursuant to the Share Repurchase Program, the Firm considers, among other things, business segment capital needs, as well as stock-based compensation and benefit plan requirements. Share repurchases under the program will be exercised from time to time at prices the Firm deems appropriate subject to various factors, including the Firm's capital position and market conditions. The share repurchases may be effected through open market purchases or privately negotiated transactions, including through Rule 10b5-1 plans, and may be suspended at any time. Share repurchases by the Firm are subject to regulatory approval.

Employee Stock Trusts

The Firm has established Employee stock trusts to provide common stock voting rights to certain employees who hold outstanding RSUs. The assets of the Employee stock trusts are consolidated with those of the Firm, and the value of the stock held in the Employee stock trusts is classified in Morgan Stanley shareholders' equity and generally accounted for in a manner similar to treasury stock.

Preferred Stock Outstanding

$ in millions, except per share data	Shares Outstanding At December 31, 2018	Liquidation Preference per Share	Carrying Value At December 31, 2018	Carrying Value At December 31, 2017
Series				
A	**44,000**	**$ 25,000**	**$ 1,100**	$ 1,100
C[1]	**519,882**	**1,000**	**408**	408
E	**34,500**	**25,000**	**862**	862
F	**34,000**	**25,000**	**850**	850
G	**20,000**	**25,000**	**500**	500
H	**52,000**	**25,000**	**1,300**	1,300
I	**40,000**	**25,000**	**1,000**	1,000
J	**60,000**	**25,000**	**1,500**	1,500
K	**40,000**	**25,000**	**1,000**	1,000
Total			**$ 8,520**	$ 8,520

1. Series C is composed of the issuance of 1,160,791 shares of Series C Preferred Stock to MUFG for an aggregate purchase price of $911 million, less the redemption of 640,909 shares of Series C Preferred Stock of $503 million, which were converted to common shares of approximately $705 million.

The Firm is authorized to issue 30 million shares of preferred stock. The preferred stock has a preference over the common stock upon liquidation. The Firm's preferred stock qualifies as Tier 1 capital in accordance with regulatory capital requirements (see Note 14).

Preferred Stock Issuance Description

Series[1, 2]	Shares Issued	Depositary Shares per Share	Redemption Price per Share[3]	Redemption Date[4]
A	44,000	1,000	$ 25,000	July 15, 2011
C[5]	1,160,791	N/A	1,100	October 15, 2011
E	34,500	1,000	25,000	October 15, 2023
F	34,000	1,000	25,000	January 15, 2024
G	20,000	1,000	25,000	July 15, 2019
H	52,000	25	25,000	July 15, 2019
I	40,000	1,000	25,000	October 15, 2024
J	60,000	25	25,000	July 15, 2020
K	40,000	1,000	25,000	April 15, 2027

1. All shares issued are non-cumulative. Each share has a par value of $0.01, except Series C.
2. Dividends on Series A are based on a floating rate, and dividends on Series C and G are based on a fixed rate. Dividends on all other Series are based on a fixed-to-floating rate.
3. Series A and C are redeemable at the redemption price plus accrued and unpaid dividends, regardless of whether dividends are actually declared, up to but excluding the date of redemption. All other Series are redeemable at the redemption price plus any declared and unpaid dividends, up to but excluding the date fixed for redemption.
4. Series A and C are redeemable at the Firm's option, in whole or in part, on or after the redemption date. All other Series are redeemable at the Firm's option (i) in whole or in part, from time to time, on any dividend payment date on or after the redemption date or (ii) in whole but not in part at any time within 90 days following a regulatory capital treatment event (as described in the terms of that series).
5. Series C is non-voting perpetual preferred stock. Dividends on the Series C preferred stock are payable, on a non-cumulative basis, as and if declared by the Board, in cash, at the rate of 10% per annum of the liquidation preference of $1,000 per share.

Preferred Stock Dividends

$ in millions, except per share data	**2018** Per Share[1]	**2018** Total	2017 Per Share[1]	2017 Total	2016 Per Share[1]	2016 Total
Series						
A	**$ 1,011**	**$ 45**	$ 1,014	$ 45	$ 1,017	$ 45
C	**100**	**52**	100	52	100	52
E	**1,781**	**61**	1,781	61	1,781	62
F	**1,719**	**58**	1,719	58	1,719	58
G	**1,656**	**33**	1,656	33	1,656	33
H	**1,363**	**71**	1,363	71	1,363	71
I	**1,594**	**64**	1,594	64	1,594	64
J	**1,388**	**83**	1,388	83	1,388	83
K	**1,463**	**59**	1,402	56	N/A	N/A
Total		**$ 526**		$ 523		$ 468

1. Dividends on all series are payable quarterly, except for Series H and J, which are payable semiannually until July 15, 2019 and July 15, 2020, respectively, and then quarterly thereafter.

Comprehensive Income (Loss)

Accumulated Comprehensive Income (Loss)[1]

$ in millions	Foreign Currency Translation Adjustments	AFS Securities	Pensions, Postretirement and Other	DVA	Total
December 31, 2015	$ (963)	$ (319)	$ (374)	$ —	$ (1,656)
Cumulative adjustment for accounting change[2]	—	—	—	(312)	(312)
OCI during the period	(23)	(269)	(100)	(283)	(675)
December 31, 2016	(986)	(588)	(474)	(595)	(2,643)
OCI during the period	219	41	(117)	(560)	(417)
December 31, 2017	(767)	(547)	(591)	(1,155)	(3,060)
Cumulative adjustment for accounting changes[3]	**(8)**	**(111)**	**(124)**	**(194)**	**(437)**
OCI during the period	**(114)**	**(272)**	**137**	**1,454**	**1,205**
December 31, 2018	**$ (889)**	**$ (930)**	**$ (578)**	**$ 105**	**$ (2,292)**

1. Amounts are net of tax and noncontrolling interests.
2. In accordance with the early adoption of a provision of the accounting update *Recognition and Measurement of Financial Assets and Financial Liabilities*, a cumulative catch-up adjustment was recorded as of January 1, 2016, to move the cumulative unrealized DVA amount related to outstanding liabilities under the fair value option election from Retained earnings into AOCI.
3. The cumulative adjustment for accounting changes is primarily the effect of the adoption of the accounting update *Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income*. This adjustment was recorded as of January 1, 2018 to reclassify certain income tax effects related to enactment of the Tax Act from AOCI to Retained earnings, primarily related to the remeasurement of deferred tax assets and liabilities resulting from the reduction in the corporate income tax rate to 21%. See Note 2 for further information.

Components of Period Changes in OCI

$ in millions	2018[1] Pre-tax Gain (Loss)	Income Tax Benefit (Provision)	After-tax Gain (Loss)	Non-controlling Interests	Net
Foreign currency translation adjustments					
OCI activity	**$ (11)**	**$ (79)**	**$ (90)**	**$ 24**	**$ (114)**
Reclassified to earnings	**—**	**—**	**—**	**—**	**—**
Net OCI	**$ (11)**	**$ (79)**	**$ (90)**	**$ 24**	**$ (114)**
Change in net unrealized gains (losses) on AFS securities					
OCI activity	**$ (346)**	**$ 80**	**$ (266)**	**$ —**	**$ (266)**
Reclassified to earnings	**(8)**	**2**	**(6)**	**—**	**(6)**
Net OCI	**$ (354)**	**$ 82**	**$ (272)**	**$ —**	**$ (272)**
Pension, postretirement and other					
OCI activity	**$ 156**	**$ (37)**	**$ 119**	**$ —**	**$ 119**
Reclassified to earnings	**26**	**(8)**	**18**	**—**	**18**
Net OCI	**$ 182**	**$ (45)**	**$ 137**	**$ —**	**$ 137**
Change in net DVA					
OCI activity	**$1,947**	**$ (472)**	**$ 1,475**	**$ 63**	**$1,412**
Reclassified to earnings	**56**	**(14)**	**42**	**—**	**42**
Net OCI	**$2,003**	**$ (486)**	**$ 1,517**	**$ 63**	**$1,454**

$ in millions	2017 Pre-tax Gain (Loss)	Income Tax Benefit (Provision)	After-tax Gain (Loss)	Non-controlling Interests	Net
Foreign currency translation adjustments					
OCI activity	$ 64	$ 187	$ 251	$ 32	$ 219
Reclassified to earnings	—	—	—	—	—
Net OCI	$ 64	$ 187	$ 251	$ 32	$ 219
Change in net unrealized gains (losses) on AFS securities					
OCI activity	$ 100	$ (36)	$ 64	$ —	$ 64
Reclassified to earnings	(35)	12	(23)	—	(23)
Net OCI	$ 65	$ (24)	$ 41	$ —	$ 41
Pension, postretirement and other					
OCI activity	$ (193)	$ 75	$ (118)	$ —	$(118)
Reclassified to earnings	2	(1)	1	—	1
Net OCI	$ (191)	$ 74	$ (117)	$ —	$(117)
Change in net DVA					
OCI activity	$ (922)	$ 325	$ (597)	$ (28)	$(569)
Reclassified to earnings	12	(3)	9	—	9
Net OCI	$ (910)	$ 322	$ (588)	$ (28)	$(560)

$ in millions	2016[2] Pre-tax Gain (Loss)	Income Tax Benefit (Provision)	After-tax Gain (Loss)	Non-controlling Interests	Net
Foreign currency translation adjustments					
OCI activity	$ (24)	$ 9	$ (15)	$ 12	$ (27)
Reclassified to earnings	4	—	4	—	4
Net OCI	$ (20)	$ 9	$ (11)	$ 12	$ (23)
Change in net unrealized gains (losses) on AFS securities					
OCI activity	$ (313)	$ 116	$ (197)	$ —	$(197)
Reclassified to earnings	(113)	41	(72)	—	(72)
Net OCI	$ (426)	$ 157	$ (269)	$ —	$(269)
Pension, postretirement and other					
OCI activity	$ (162)	$ 64	$ (98)	$ —	$ (98)
Reclassified to earnings	(3)	1	(2)	—	(2)
Net OCI	$ (165)	$ 65	$ (100)	$ —	$(100)
Change in net DVA					
OCI activity	$ (429)	$ 153	$ (276)	$ (13)	$(263)
Reclassified to earnings	(31)	11	(20)	—	(20)
Net OCI	$ (460)	$ 164	$ (296)	$ (13)	$(283)

1. Exclusive of cumulative adjustments related to the adoption of certain accounting updates in 2018. Refer to the table below and Note 2 for further information.
2. Exclusive of 2016 cumulative adjustment for accounting change related to DVA.

Cumulative Adjustments to Retained Earnings Related to Adoption of Accounting Updates

$ in millions	**2018**
Revenues from contracts with customers	**$ (32)**
Derivatives and hedging—targeted improvements to accounting for hedging activities	**(99)**
Reclassification of certain tax effects from AOCI	**443**
Other[1]	**(6)**
Total	**$ 306**

$ in millions		2017
Improvements to employee share-based payment accounting[2]	$	(30)
Intra-entity transfers of assets other than inventory		(5)
Total	$	(35)

1. Other includes the adoption of accounting updates related to *Recognition and Measurement of Financial Assets and Financial Liabilities* (other than the provision around presenting unrealized DVA in OCI, which the Firm early adopted in 2016) and *Derecognition of Nonfinancial Assets*. The impact of these adoptions on Retained earnings was not significant.
2. In 2017, in accordance with the adoption of a provision of the accounting update *Improvements to Employee Share-Based Payment Accounting*, the Firm has elected to account for forfeitures on an actual basis as they occur. Upon adoption, the Firm recorded a cumulative catch-up adjustment.

Cumulative Foreign Currency Translation Adjustments

Cumulative foreign currency translation adjustments include gains or losses resulting from translating foreign currency financial statements from their respective functional currencies to U.S. dollars, net of hedge gains or losses and related tax effects. The Firm uses foreign currency contracts to manage the currency exposure relating to its net investments in non-U.S. dollar functional currency subsidiaries and determines the amount of exposure to hedge on a pre-tax basis. The Firm may also elect not to hedge its net investments in certain foreign operations due to market conditions or other reasons, including the availability of various currency contracts at acceptable costs. Information relating to the effects on cumulative foreign currency translation adjustments that resulted from the translation of foreign currency financial statements and from gains and losses from hedges of the Firm's net investments in non-U.S. dollar functional currency subsidiaries is summarized in the following table.

Cumulative Foreign Currency Translation Adjustments

$ in millions		**At December 31, 2018**		At December 31, 2017
Associated with net investments in subsidiaries with a non-U.S. dollar functional currency	**$**	**(1,851)**	$	(1,434)
Hedges, net of tax		**962**		667
Total	**$**	**(889)**	$	(767)
Carrying value of net investments in non-U.S. dollar functional currency subsidiaries subject to hedges	**$**	**11,608**	$	10,139

16. Earnings per Common Share

Calculation of Basic and Diluted EPS

in millions, except for per share data		**2018**		2017		2016
Income from continuing operations	**$**	**8,887**	$	6,235	$	6,122
Income (loss) from discontinued operations		**(4)**		(19)		1
Net income		**8,883**		6,216		6,123
Net income applicable to noncontrolling interests		**135**		105		144
Net income applicable to Morgan Stanley		**8,748**		6,111		5,979
Preferred stock dividends and other		**526**		523		471
Earnings applicable to Morgan Stanley common shareholders	**$**	**8,222**	$	5,588	$	5,508
Basic EPS						
Weighted average common shares outstanding		**1,708**		1,780		1,849
Earnings per basic common share						
Income from continuing operations	**$**	**4.81**	$	3.15	$	2.98
Income (loss) from discontinued operations		**—**		(0.01)		—
Earnings per basic common share	**$**	**4.81**	$	3.14	$	2.98
Diluted EPS						
Weighted average common shares outstanding		**1,708**		1,780		1,849
Effect of dilutive securities:						
Stock options and RSUs		**30**		41		38
Weighted average common shares outstanding and common stock equivalents		**1,738**		1,821		1,887
Earnings per diluted common share						
Income from continuing operations	**$**	**4.73**	$	3.08	$	2.92
Income (loss) from discontinued operations		**—**		(0.01)		—
Earnings per diluted common share	**$**	**4.73**	$	3.07	$	2.92
Weighted average antidilutive RSUs and stock options (excluded from the computation of diluted EPS)		**1**		—		13

17. Interest Income and Interest Expense

$ in millions	2018	2017	2016
Interest income			
Investment securities	**$ 1,744**	$ 1,334	$ 1,142
Loans	**4,249**	3,298	2,724
Securities purchased under agreements to resell and Securities borrowed[1]	**1,976**	169	(374)
Trading assets, net of Trading liabilities	**2,392**	2,029	2,131
Customer receivables and Other[2]	**3,531**	2,167	1,393
Total interest income	**$ 13,892**	$ 8,997	$ 7,016
Interest expense			
Deposits	**$ 1,255**	$ 187	$ 83
Borrowings	**5,031**	4,285	3,606
Securities sold under agreements to repurchase and Securities loaned[3]	**1,898**	1,237	977
Customer payables and Other[4]	**1,902**	(12)	(1,348)
Total interest expense	**$ 10,086**	$ 5,697	$ 3,318
Net interest	**$ 3,806**	$ 3,300	$ 3,698

1. Includes fees paid on Securities borrowed.
2. Includes interest from Customer receivables and Cash and cash equivalents.
3. Includes fees received on Securities loaned.
4. Includes fees received from prime brokerage customers for stock loan transactions incurred to cover customers' short positions.

Interest income and Interest expense are classified in the income statements based on the nature of the instrument and related market conventions. When included as a component of the instrument's fair value, interest is included within Trading revenues or Investments revenues. Otherwise, it is included within Interest income or Interest expense.

18. Deferred Compensation Plans

Stock-Based Compensation Plans

Stock-Based Compensation Expense

$ in millions	2018	2017	2016
RSUs	**$ 892**	$ 951	$ 1,054
Stock options	**—**	—	2
PSUs	**28**	75	81
Total[1]	**$ 920**	$ 1,026	$ 1,137
Includes:			
Retirement-eligible awards[2]	**$ 110**	$ 85	$ 73

1. Net of cancellations.
2. Relates to stock-based compensation anticipated to be awarded in January of the following year that does not contain a future service requirement.

Tax Benefit Related to Stock-Based Compensation Expense

$ in millions	2018	2017	2016
Tax benefit[1]	**$ 193**	$ 225	$ 381

1. Excludes income tax consequences related to employee share-based award conversions.

Unrecognized Compensation Cost Related to Unvested Stock-Based Awards

$ in millions	At December 31, 2018[1]
To be recognized in:	
2019	**$ 364**
2020	**167**
Thereafter	**30**
Total	**$ 561**

1. Amounts do not include forfeitures, cancellations, accelerations or 2018 performance year compensation awarded in January 2019, which will begin to be amortized in 2019 (see the Annual Compensation Cost for 2018 Performance Year Awards table herein).

In connection with awards under its stock-based compensation plans, the Firm is authorized to issue shares of common stock held in treasury or newly issued shares.

The Firm generally uses treasury shares, if available, to deliver shares to employees or employee stock trusts, and has an ongoing repurchase authorization that includes repurchases in connection with awards under its stock-based compensation plans. Share repurchases by the Firm are subject to regulatory approval.

Common Shares Available for Future Awards under Stock-Based Compensation Plans

in millions	At December 31, 2018
Shares	**138**

See Note 15 for additional information on the Firm's Share Repurchase Program.

Restricted Stock Units

RSUs are subject to vesting over time, generally one to four years from the date of award, contingent upon continued employment and subject to restrictions on sale, transfer or assignment until conversion to common stock. All or a portion of an award may be canceled if employment is terminated before the end of the relevant vesting period and after the relevant vesting period in certain situations. Recipients of RSUs may have voting rights, at the Firm's discretion, and generally receive dividend equivalents if the awards vest.

Vested and Unvested RSU Activity

	2018	
shares in millions	Number of Shares	Weighted Average Award Date Fair Value
RSUs at beginning of period	88	$ 32.46
Awarded	**20**	**55.40**
Conversions to common stock	**(32)**	**34.36**
Canceled	**(2)**	**37.78**
RSUs at end of period[1]	**74**	**$ 37.59**
Aggregate intrinsic value of RSUs at end of period (dollars in millions)		**$ 2,899**
Weighted average award date fair value		
RSUs awarded in 2017		$ 42.98
RSUs awarded in 2016		25.48

1. At December 31, 2018, the weighted average remaining term until delivery for the outstanding RSUs was approximately 1.0 year.

Unvested RSU Activity

	2018	
shares in millions	Number of Shares	Weighted Average Award Date Fair Value
Unvested RSUs at beginning of period	50	$ 33.64
Awarded	**20**	**55.40**
Vested	**(27)**	**38.43**
Canceled	**(2)**	**37.78**
Unvested RSUs at end of period[1]	**41**	**$ 40.65**

1. Unvested RSUs represent awards where recipients have yet to satisfy either the explicit vesting terms or retirement-eligible requirements.

Fair Value of RSU Activity

$ in millions	2018	2017	2016
Conversions to common stock	**$ 1,790**	$ 1,333	$ 1,068
Vested	**1,504**	1,470	1,088

Performance-Based Stock Units

PSUs will vest and convert to shares of common stock only if the Firm satisfies predetermined performance and market-based conditions over a three-year performance period. The number of PSUs that will actually vest ranges from 0% to 150% of the target award, based on the extent to which the Firm achieves the specified performance goals. One-half of the award will be earned based on the Firm's average return on equity, excluding certain adjustments specified in the plan terms ("MS Adjusted ROE"). The other half of the award will be earned based on the Firm's total shareholder return, relative to the total shareholder return of the S&P 500 Financials Sector Index ("Relative MS TSR"). PSUs have vesting, restriction and cancellation provisions that are generally similar to those of RSUs. At December 31, 2018, approximately three million PSUs were outstanding.

PSU Fair Value on Award Date

	2018	2017	2016
MS Adjusted ROE	**$ 56.84**	$ 42.64	$ 25.19
Relative MS TSR	**65.81**	48.02	24.51

The Relative MS TSR fair values on the award date were estimated using a Monte Carlo simulation and the following assumptions.

Monte Carlo Simulation Assumptions

Award Year	Risk-Free Interest Rate	Expected Stock Price Volatility	Correlation Coefficient
2018	**2.2%**	**26.8%**	**0.89**
2017	1.5%	27.0%	0.89
2016	1.1%	25.4%	0.84

The risk-free interest rate was determined based on the yields available on U.S. Treasury zero-coupon issues. The expected stock price volatility was determined using historical volatility. The correlation coefficient was developed based on historical price data of the Firm and the S&P 500 Financials Sector Index. The model also uses an expected dividend yield which is calibrated to be equivalent to reinvesting dividends.

Deferred Cash-Based Compensation Plans

Deferred cash-based compensation plans generally provide a return to the plan participants based upon the performance of each participant's referenced investments.

Deferred Cash-Based Compensation Expense

$ in millions	2018	2017	2016
Deferred cash-based awards	**$ 1,174**	$ 1,039	$ 950
Return on referenced investments	**108**	696	228
Total[1]	**$ 1,282**	$ 1,735	$ 1,178
Includes:			
Retirement-eligible awards[2]	**$ 193**	$ 176	$ 151

1. Net of cancellations.
2. Relates to deferred cash-based compensation anticipated to be awarded in January of the following year that does not contain a future service requirement.

Unrecognized Compensation Cost Related to Unvested Deferred Cash-Based Awards

$ in millions	At December 31, 2018[1]
To be recognized in:	
2019	**$ 423**
2020	**151**
Thereafter	**227**
Total	**$ 801**

1. Amounts do not include forfeitures, cancellations, accelerations, future return on referenced investments or 2018 performance year compensation awarded in January 2019, which will begin to be amortized in 2019 (see below).

Annual Compensation Cost for 2018 Performance Year Awards[1]

$ in millions	2019	2020	Thereafter	Total
Stock-based awards	$ 558	$ 197	$ 151	$ 906
Deferred cash-based awards	630	284	122	1,036
Total	**$ 1,188**	**$ 481**	**$ 273**	**$ 1,942**

1. Awarded in January 2019 and contain a future service requirement. Amounts do not include forfeitures, cancellations, accelerations, or future return on referenced investments.

19. Employee Benefit Plans

Pension and Other Postretirement Plans

Components of Net Periodic Benefit Expense (Income)

	Pension Plans		
$ in millions	**2018**	2017	2016
Service cost, benefits earned during the period	**$ 16**	$ 16	$ 17
Interest cost on projected benefit obligation	**134**	146	150
Expected return on plan assets	**(112)**	(117)	(122)
Net amortization of prior service credit	**(1)**	—	—
Net amortization of actuarial loss	**26**	17	12
Net periodic benefit expense (income)	**$ 63**	$ 62	$ 57

	Other Postretirement Plan		
$ in millions	**2018**	2017	2016
Service cost, benefits earned during the period	**$ 1**	$ 1	$ 1
Interest cost on projected benefit obligation	**3**	3	4
Net amortization of prior service credit	**(1)**	(16)	(17)
Net periodic benefit expense (income)	**$ 3**	$ (12)	$ (12)

Certain U.S. employees of the Firm and its U.S. affiliates who were hired before July 1, 2007 are covered by the U.S. pension plan, a non-contributory defined benefit pension plan that is qualified under Section 401(a) of the Internal Revenue Code ("U.S. Qualified Plan"). The U.S. Qualified Plan has ceased future benefit accruals.

Unfunded supplementary plans ("Supplemental Plans") cover certain executives. Liabilities for benefits payable under the Supplemental Plans are accrued by the Firm and are funded when paid. The Morgan Stanley Supplemental Executive Retirement and Excess Plan ("SEREP"), a non-contributory defined benefit plan that is not qualified under Section 401(a) of the Internal Revenue Code, has ceased future benefit accruals.

Certain of the Firm's non-U.S. subsidiaries also have defined benefit pension plans covering their eligible employees.

The Firm's pension plans generally provide pension benefits that are based on each employee's years of credited service and on compensation levels specified in the plans.

The Firm has an unfunded postretirement benefit plan that provides medical and life insurance for eligible U.S. retirees and medical insurance for their dependents.

Rollforward of Pre-tax AOCI

	Pension Plans		
$ in millions	**2018**	2017	2016
Beginning balance	**$ (947)**	$ (761)	$ (625)
Net gain (loss)	**158**	(205)	(149)
Prior service credit (cost)	**(15)**	2	1
Amortization of prior service credit	**(1)**	—	—
Amortization of net loss	**26**	17	12
Changes recognized in OCI	**168**	(186)	(136)
Ending balance	**$ (779)**	$ (947)	$ (761)

	Other Postretirement Plan		
$ in millions	**2018**	2017	2016
Beginning balance	**$ 1**	$ 17	$ 36
Net gain (loss)	**13**	—	(2)
Amortization of prior service credit	**(1)**	(16)	(17)
Changes recognized in OCI	**12**	(16)	(19)
Ending balance	**$ 13**	$ 1	$ 17

The Firm generally amortizes into net periodic benefit expense (income) the unrecognized net gains and losses exceeding 10% of the greater of the projected benefit obligation or the market-related value of plan assets. The U.S. pension plans amortize the unrecognized net gains and losses over the average life expectancy of participants. The remaining plans generally amortize the unrecognized net gains and losses and prior service credit over the average remaining service period of active participants.

Weighted Average Assumptions Used to Determine Net Periodic Benefit Expense (Income)

	Pension Plans		
	2018	2017	2016
Discount rate	**3.46%**	4.01%	4.27%
Expected long-term rate of return on plan assets	**3.50%**	3.52%	3.61%
Rate of future compensation increases	**3.38%**	3.10%	3.19%

	Other Postretirement Plan		
	2018	2017	2016
Discount rate	**3.44%**	4.01%	4.13%

The accounting for pension and other postretirement plans involves certain assumptions and estimates. The expected long-term rate of return for the U.S. Qualified Plan was estimated by computing a weighted average of the underlying long-term expected returns based on the investment managers' target allocations.

Benefit Obligation and Funded Status

Rollforward of the Benefit Obligation and Fair Value of Plan Assets

$ in millions	Pension Plans 2018	Pension Plans 2017	Other Postretirement Plan 2018	Other Postretirement Plan 2017
Rollforward of benefit obligation				
Benefit obligation at beginning of year	$ 3,966	$ 3,711	$ 86	$ 88
Service cost	**16**	16	**1**	1
Interest cost	**134**	146	**3**	3
Actuarial loss (gain)[1]	**(340)**	304	**(13)**	—
Plan amendments	**15**	(2)	**—**	—
Plan settlements	**(11)**	(9)	**—**	—
Benefits paid	**(195)**	(242)	**(6)**	(6)
Other[2]	**(22)**	42	**—**	—
Benefit obligation at end of year	**$ 3,563**	$ 3,966	**$ 71**	$ 86
Rollforward of fair value of plan assets				
Fair value of plan assets at beginning of year	$ 3,468	$ 3,431	$ —	$ —
Actual return on plan assets	**(69)**	217	**—**	—
Employer contributions	**34**	32	**6**	6
Benefits paid	**(195)**	(242)	**(6)**	(6)
Plan settlements	**(11)**	(9)	**—**	—
Other[2]	**(24)**	39	**—**	—
Fair value of plan assets at end of year	**$ 3,203**	$ 3,468	**$ —**	$ —
Funded (unfunded) status	**$ (360)**	$ (498)	**$ (71)**	$ (86)
Amounts recognized in the balance sheets				
Assets	**$ 151**	$ 87	**$ —**	$ —
Liabilities	**(511)**	(585)	**(71)**	(86)
Net amount recognized	**$ (360)**	$ (498)	**$ (71)**	$ (86)

1. Pension amounts primarily reflect the impact of year-over-year discount rate fluctuations.
2. Includes foreign currency exchange rate changes.

Accumulated Benefit Obligation

$ in millions	At December 31, 2018	At December 31, 2017
Pension plans	**$ 3,546**	$ 3,953

Pension Plans with Benefit Obligations in Excess of the Fair Value of Plan Assets

$ in millions	At December 31, 2018	At December 31, 2017
Projected benefit obligation	**$ 575**	$ 3,676
Accumulated benefit obligation	**559**	3,663
Fair value of plan assets	**64**	3,091

The pension plans included in each of the above amounts may differ based on their funding status as of December 31st of each year.

Weighted Average Assumptions Used to Determine Benefit Obligation

	Pension Plans At December 31, 2018	Pension Plans At December 31, 2017	Other Postretirement Plan At December 31, 2018	Other Postretirement Plan At December 31, 2017
Discount rate	**4.01%**	3.46%	**4.07%**	3.44%
Rate of future compensation increase	**3.34%**	3.38%	**N/A**	N/A

The discount rates used to determine the benefit obligation for the U.S. pension and postretirement plans were selected by the Firm, in consultation with its independent actuaries, using a pension discount yield curve based on the characteristics of the plans, each determined independently. The pension discount yield curve represents spot discount yields based on duration implicit in a representative broad-based Aa-rated corporate bond universe of high-quality fixed income investments. For all non-U.S. pension plans, the Firm set the assumed discount rates based on the nature of liabilities, local economic environments and available bond indices.

Assumed Health Care Cost Trend Rates Used to Determine the U.S. Postretirement Benefit Obligation

	At December 31, 2018	At December 31, 2017
Health care cost trend rate assumed for next year		
Medical	**5.66%**	5.81%
Prescription	**7.66%**	8.49%
Rate to which the cost trend rate is assumed to decline (ultimate trend rate)	**4.50%**	4.50%
Year that the rate reaches the ultimate trend rate	**2038**	2038

Plan Assets

Fair Value of Plan Assets

$ in millions	At December 31, 2018 Level 1	Level 2	Level 3	Total
Assets				
Cash and cash equivalents[1]	**$ 3**	**$ —**	**$ —**	**$ 3**
U.S. government and agency securities:				
U.S. Treasury securities	**2,197**	**—**	**—**	**2,197**
U.S. agency securities	**—**	**317**	**—**	**317**
Total U.S. government and agency securities	**2,197**	**317**	**—**	**2,514**
Corporate and other debt — CDO	**—**	**11**	**—**	**11**
Derivative contracts	**—**	**22**	**—**	**22**
Other investments	**—**	**—**	**48**	**48**
Total	**$ 2,200**	**$ 350**	**$ 48**	**$ 2,598**
Assets Measured at NAV				
Commingled trust funds:				
Money market				**252**
Foreign funds:				
Fixed income				**134**
Liquidity				**12**
Targeted cash flow				**207**
Total				**$ 605**
Fair value of plan assets				**$ 3,203**

$ in millions	At December 31, 2017 Level 1	Level 2	Level 3	Total
Assets				
Cash and cash equivalents[1]	$ 6	$ —	$ —	$ 6
U.S. government and agency securities:				
U.S. Treasury securities	2,398	—	—	2,398
U.S. agency securities	—	318	—	318
Total U.S. government and agency securities	2,398	318	—	2,716
Corporate and other debt — CDO	—	14	—	14
Derivative contracts	—	1	—	1
Other investments	—	—	47	47
Other receivables[1]	26	—	—	26
Other liabilities[1]	(11)	(2)	—	(13)
Total	$ 2,419	$ 331	$ 47	$ 2,797
Assets Measured at NAV				
Commingled trust funds:				
Money market				285
Foreign funds:				
Fixed income				126
Liquidity				41
Targeted cash flow				219
Total				$ 671
Fair value of plan assets				$ 3,468

1. Cash and cash equivalents, other receivables and other liabilities are valued at their carrying value, which approximates fair value.

Rollforward of Level 3 Plan Assets

$ in millions	2018	2017
Balance at beginning of period	**$ 47**	$ 38
Actual return on plan assets related to assets held at end of period	**—**	1
Purchases, sales, other settlements and issuances, net	**1**	8
Balance at end of period	**$ 48**	$ 47

There were no transfers between levels during 2018 and 2017.

The U.S. Qualified Plan's assets represent 87% of the Firm's total pension plan assets. The U.S. Qualified Plan uses a combination of active and risk-controlled fixed income investment strategies. The fixed income asset allocation consists primarily of fixed income securities and related derivative instruments designed to approximate the expected cash flows of the plan's liabilities in order to help reduce plan exposure to interest rate variation and to better align assets with the obligation. The longer-duration fixed income allocation is expected to help protect the plan's funded status and maintain the stability of plan contributions over the long run. The investment portfolio performance is assessed by comparing actual investment performance with changes in the estimated present value of the U.S. Qualified Plan's benefit obligation.

Derivative instruments are permitted in the U.S. Qualified Plan's investment portfolio only to the extent that they comply with all of the plan's investment policy guidelines and are consistent with the plan's risk and return objectives.

As a fundamental operating principle, any restrictions on the underlying assets apply to a respective derivative product. This includes percentage allocations and credit quality. Derivatives are used solely for the purpose of enhancing investment in the underlying assets and not to circumvent portfolio restrictions.

Plan assets are measured at fair value using valuation techniques that are consistent with the valuation techniques applied to the Firm's major categories of assets and liabilities as described in Notes 2 and 3. OTC derivative contracts consist of investments in interest rate swaps.

Other investments consist of pledged insurance annuity contracts held by non-U.S.-based plans. The pledged insurance annuity contracts are valued based on the premium reserve of the insurer for a guarantee that the insurer has given to the employee benefit plan that approximates fair value. The pledged insurance annuity contracts are categorized in Level 3 of the fair value hierarchy.

Commingled trust funds are privately offered funds that are regulated, supervised and subject to periodic examination by a U.S. federal or state agency and available to institutional clients. The trust must be maintained for the collective investment or reinvestment of assets contributed to it from U.S. tax-qualified employee benefit plans maintained by more than one employer or controlled group of corporations. The sponsor of the commingled trust funds values the funds based on the fair value of the underlying securities. Commingled trust funds are redeemable at NAV at the measurement date or in the near future.

Some non-U.S.-based plans hold foreign funds that consist of investments in fixed income funds, target cash flow funds and liquidity funds. Fixed income funds invest in individual securities quoted on a recognized stock exchange or traded in a regulated market. Certain fixed income funds aim to produce returns consistent with certain Financial Times Stock Exchange indexes. Target cash flow funds are designed to provide a series of fixed annual cash flows achieved by investing in government bonds and derivatives. Liquidity funds place a high priority on capital preservation, stable value and a high liquidity of assets. Foreign funds are readily redeemable at NAV.

The Firm generally considers the NAV of commingled trust funds and foreign funds provided by the fund manager to be the best estimate of fair value.

Expected Contributions

The Firm's policy is to fund at least the amount sufficient to meet minimum funding requirements under applicable employee benefit and tax laws. At December 31, 2018, the Firm expected to contribute approximately $50 million to its pension and postretirement benefit plans in 2019 based upon the plans' current funded status and expected asset return assumptions for 2019.

Expected Future Benefit Payments

	At December 31, 2018	
$ in millions	Pension Plans	Other Postretirement Plan
2019	$ 139	$ 6
2020	144	6
2021	151	6
2022	160	6
2023	163	7
2024-2028	904	27

Morgan Stanley 401(k) Plan

$ in millions	2018	2017	2016
Expense	$ 272	$ 258	$ 250

U.S. employees meeting certain eligibility requirements may participate in the Morgan Stanley 401(k) Plan. Eligible employees receive discretionary 401(k) matching cash contributions as determined annually by the Firm. For 2018, 2017 and 2016, the Firm matched employee contributions up to 4% of eligible pay, up to the IRS limit. Matching contributions were invested among available funds according to each participant's investment direction on file. Eligible employees with eligible pay less than or equal to $100,000 also received a fixed contribution under the 401(k) Plan equal to 2% of eligible pay. Transition contributions relating to acquired entities or frozen plans are allocated to certain eligible employees. The Firm match, fixed contribution and transition contribution are included in the Firm's 401(k) expense.

Non-U.S. Defined Contribution Pension Plans

$ in millions	2018	2017	2016
Expense	$ 116	$ 106	$ 101

The Firm maintains separate defined contribution pension plans that cover eligible employees of certain non-U.S. subsidiaries. Under such plans, benefits are generally determined based on a fixed rate of base salary with certain vesting requirements.

20. Income Taxes

Provision for (Benefit from) Income Taxes

Components of Provision for (Benefit from) Income Taxes

$ in millions	2018	2017	2016
Current			
U.S.:			
Federal	$ 686	$ 476	$ 330
State and local	207	125	221
Non-U.S.:			
U.K.	328	401	196
Japan	268	56	28
Hong Kong	94	48	14
Other	318	308	359
Total	$ 1,901	$ 1,414	$ 1,148
Deferred			
U.S.:			
Federal	$ 330	$ 2,656	$ 1,336
State and local	56	84	74
Non-U.S.:			
U.K.	54	18	56
Japan	(10)	(17)	127
Hong Kong	(3)	(2)	31
Other	22	15	(46)
Total	$ 449	$ 2,754	$ 1,578
Provision for income taxes from continuing operations	$ 2,350	$ 4,168	$ 2,726
Provision for (benefit from) income taxes from discontinued operations	$ (1)	$ (7)	$ 1

Selected Other Non-U.S. Tax Provisions

$ in millions	**Tax Provisions**
2018:	
Brazil	**$ 71**
Spain	**67**
India	**39**
2017:	
Brazil	82
India	49
Canada	36
2016:	
Brazil	125
India	46
France	38

Effective Income Tax Rate

Reconciliation of the U.S. Federal Statutory Income Tax Rate to the Effective Income Tax Rate

	2018	2017	2016
U.S. federal statutory income tax rate	**21.0%**	35.0%	35.0%
U.S. state and local income taxes, net of U.S. federal income tax benefits	**2.0**	1.4	2.2
Domestic tax credits	**(0.9)**	(1.6)	(2.5)
Tax exempt income	**(0.4)**	(0.1)	(0.1)
Non-U.S. earnings			
Foreign tax rate differential	**1.2**	(5.0)	(3.1)
Change in foreign tax rates	**0.1**	—	0.1
Tax Act enactment	**—**	11.5	—
Employee share-based awards[1]	**(1.5)**	(1.5)	—
Other	**(0.6)**	0.4	(0.8)
Effective income tax rate	**20.9%**	40.1%	30.8%

1. Beginning in 2017, the income tax consequences related to employee share-based awards are required to be recognized in Provision for income taxes in the income statements upon the conversion of employee share-based awards instead of additional paid-in capital. See Note 2 to the financial statements for information on the adoption of the accounting update *Improvements to Employee Share-Based Payment Accounting*. See Note 21 for more information on the net discrete tax provisions (benefits).

The Firm's effective tax rate from continuing operations for 2018 included an intermittent net discrete tax benefit of $203 million primarily associated with the remeasurement of reserves and related interest due to the resolution of multi-jurisdiction tax examinations.

The Firm's effective tax rate from continuing operations for 2017 included an intermittent net discrete tax provision of $968 million, which included approximately $1.2 billion primarily related to the remeasurement of certain net deferred tax assets as a result of the Tax Act, partially offset by $233 million of net discrete tax benefits primarily associated with the remeasurement of reserves and related interest due to new information regarding the status of multi-year IRS tax examinations.

The Tax Act, enacted on December 22, 2017, significantly revised U.S. corporate income tax law by reducing the corporate income tax rate to 21%, partially or wholly eliminating tax deductions for certain expenses and implementing a modified territorial tax system. The modified territorial tax system includes a one-time transition tax on deemed repatriated earnings of non-U.S. subsidiaries and also imposes a minimum tax on GILTI and an alternative BEAT on U.S. corporations with operations outside of the U.S.

The Firm's effective tax rate from continuing operations for 2016 included intermittent net discrete tax benefits of $68 million. These net discrete tax benefits were primarily related to the remeasurement of reserves and related interest due to new information regarding the status of multi-year IRS tax examinations, partially offset by adjustments for other tax matters.

Deferred Tax Assets and Liabilities

$ in millions	**At December 31, 2018**	At December 31, 2017
Gross deferred tax assets		
Net operating loss and tax credit carryforwards	**$ 264**	$ 391
Employee compensation and benefit plans	**2,053**	2,146
Valuation and liability allowances	**318**	377
Valuation of inventory, investments and receivables	**242**	645
Total deferred tax assets	**2,877**	3,559
Deferred tax assets valuation allowance	**143**	144
Deferred tax assets after valuation allowance	**$ 2,734**	$ 3,415
Gross deferred tax liabilities		
Non-U.S. operations	**$ 12**	$ 20
Fixed assets	**825**	627
Other	**224**	194
Total deferred tax liabilities	**$ 1,061**	$ 841
Net deferred tax assets	**$ 1,673**	$ 2,574

Deferred income taxes reflect the net tax effects of temporary differences between the financial reporting and tax bases of assets and liabilities and are measured using the enacted tax rates and laws that will be in effect when such differences are expected to reverse.

The Firm believes the recognized net deferred tax assets (after valuation allowance) at December 31, 2018 are more likely than not to be realized based on expectations as to future taxable income in the jurisdictions in which it operates.

The earnings of certain foreign subsidiaries are indefinitely reinvested due to regulatory and other capital requirements in foreign jurisdictions. As a result of the Tax Act's one-time transition tax on the earnings of foreign subsidiaries and an annual minimum tax on GILTI, as of December 31, 2018 the unrecognized deferred tax liability attributable to indefinitely reinvested earnings is immaterial.

Unrecognized Tax Benefits

Rollforward of Unrecognized Tax Benefits

$ in millions	**2018**	2017	2016
Balance at beginning of period	$ 1,594	$ 1,851	$ 1,804
Increase based on tax positions related to the current period	**83**	63	172
Increase based on tax positions related to prior periods	**34**	170	14
Decrease based on tax positions related to prior periods	**(404)**	(312)	(134)
Decreases related to settlements with taxing authorities	**(139)**	(155)	—
Decreases related to lapse of statute of limitations	**(88)**	(23)	(5)
Balance at end of period	**$ 1,080**	$ 1,594	$ 1,851
Net unrecognized tax benefits[1]	**$ 746**	$ 873	$ 1,110

1. Represent ending unrecognized tax benefits adjusted for the impact of the federal benefit of state issues, competent authority arrangements and foreign tax credit offsets. If recognized, these net benefits would favorably impact the effective tax rate in future periods.

Interest Expense (Benefit), Net of Federal and State Income Tax Benefits

$ in millions	**2018**	2017	2016
Recognized in income statements	**$ (40)**	$ (3)	$ 28
Accrued at end of period	**91**	147	150

Interest and penalties related to unrecognized tax benefits are classified as provision for income taxes. Penalties related to unrecognized tax benefits for the years mentioned above were immaterial.

Tax Authority Examinations

The Firm is under continuous examination by the IRS and other tax authorities in certain countries, such as Japan and the U.K., and in states and localities in which it has significant business operations, such as New York. The Firm has established a liability for unrecognized tax benefits, and associated interest, if applicable ("tax liabilities"), that it believes is adequate in relation to the potential for additional assessments. Once established, the Firm adjusts such tax liabilities only when new information is available or when an event occurs necessitating a change.

The Firm believes that the resolution of the above tax examinations will not have a material effect on the annual financial statements, although a resolution could have a material impact in the income statements and on the effective tax rate for any period in which such resolution occurs.

See Note 12 regarding the Dutch Tax Authority's challenge, in the District Court in Amsterdam (matters styled *Case number 15/3637* and *Case number 15/4353*), of the Firm's entitlement to certain withholding tax credits which may impact the balance of unrecognized tax benefits.

It is reasonably possible that significant changes in the balance of unrecognized tax benefits occur within the next 12 months. At this time, however, it is not possible to reasonably estimate the expected change to the total amount of unrecognized tax benefits and the impact on the Firm's effective tax rate over the next 12 months.

Earliest Tax Year Subject to Examination in Major Tax Jurisdictions

Jurisdiction	Tax Year
U.S.	2013
New York State and New York City	2007
Hong Kong	2012
U.K.	2011
Japan	2015

21. Segment, Geographic and Revenue Information

Segment Information

The Firm structures its segments primarily based upon the nature of the financial products and services provided to customers and its management organization. The Firm provides a wide range of financial products and services to its customers in each of the business segments: Institutional Securities, Wealth Management and Investment Management. For a further discussion of the business segments, see Note 1.

Revenues and expenses directly associated with each respective business segment are included in determining its operating results. Other revenues and expenses that are not directly attributable to a particular business segment are generally allocated based on each business segment's respective net revenues, non-interest expenses or other relevant measures.

As a result of revenues and expenses from transactions with other operating segments being treated as transactions with external parties for purposes of segment disclosures, the Firm includes an Intersegment Eliminations category to reconcile the business segment results to the consolidated results.

Selected Financial Information by Business Segment

	2018				
$ in millions	IS	WM	IM	I/E	Total
Investment banking[1, 2]	**$ 6,088**	**$ 475**	**$ —**	**$ (81)**	**$ 6,482**
Trading	**11,191**	**279**	**25**	**56**	**11,551**
Investments	**182**	**1**	**254**	**—**	**437**
Commissions and fees[1]	**2,671**	**1,804**	**—**	**(285)**	**4,190**
Asset management[1]	**421**	**10,158**	**2,468**	**(149)**	**12,898**
Other	**535**	**248**	**(30)**	**(10)**	**743**
Total non-interest revenues[3, 4]	**21,088**	**12,965**	**2,717**	**(469)**	**36,301**
Interest income	**9,271**	**5,498**	**57**	**(934)**	**13,892**
Interest expense	**9,777**	**1,221**	**28**	**(940)**	**10,086**
Net interest	**(506)**	**4,277**	**29**	**6**	**3,806**
Net revenues	**$20,582**	**$ 17,242**	**$ 2,746**	**$ (463)**	**$ 40,107**
Income from continuing operations before income taxes	**$ 6,260**	**$ 4,521**	**$ 464**	**$ (8)**	**$ 11,237**
Provision for income taxes	**1,230**	**1,049**	**73**	**(2)**	**2,350**
Income from continuing operations	**5,030**	**3,472**	**391**	**(6)**	**8,887**
Income (loss) from discontinued operations, net of income taxes	**(6)**	**—**	**2**	**—**	**(4)**
Net income	**5,024**	**3,472**	**393**	**(6)**	**8,883**
Net income applicable to noncontrolling interests	**118**	**—**	**17**	**—**	**135**
Net income applicable to Morgan Stanley	**$ 4,906**	**$ 3,472**	**$ 376**	**$ (6)**	**$ 8,748**

	2017				
$ in millions	IS	WM	IM	I/E	Total
Investment banking	$ 5,537	$ 533	$ —	$ (67)	$ 6,003
Trading	10,295	848	(22)	(5)	11,116
Investments	368	3	449	—	820
Commissions and fees	2,433	1,737	—	(109)	4,061
Asset management	359	9,342	2,196	(100)	11,797
Other	630	268	(37)	(13)	848
Total non-interest revenues	19,622	12,731	2,586	(294)	34,645
Interest income	5,377	4,591	4	(975)	8,997
Interest expense	6,186	486	4	(979)	5,697
Net interest	(809)	4,105	—	4	3,300
Net revenues	$ 18,813	$ 16,836	$ 2,586	$ (290)	$ 37,945
Income from continuing operations before income taxes	$ 5,644	$ 4,299	$ 456	$ 4	$ 10,403
Provision for income taxes	1,993	1,974	201	—	4,168
Income from continuing operations	3,651	2,325	255	4	6,235
Income (loss) from discontinued operations, net of income taxes	(19)	—	—	—	(19)
Net income	3,632	2,325	255	4	6,216
Net income applicable to noncontrolling interests	96	—	9	—	105
Net income applicable to Morgan Stanley	$ 3,536	$ 2,325	$ 246	$ 4	$ 6,111

$ in millions	2016 IS	WM	IM	I/E	Total
Investment banking	$ 4,476	$ 484	$ —	$ (27)	$ 4,933
Trading	9,387	861	(2)	(37)	10,209
Investments	147	—	13	—	160
Commissions and fees	2,456	1,745	3	(95)	4,109
Asset management	293	8,454	2,063	(113)	10,697
Other	535	277	31	(18)	825
Total non-interest revenues	17,294	11,821	2,108	(290)	30,933
Interest income	4,005	3,888	5	(882)	7,016
Interest expense	3,840	359	1	(882)	3,318
Net interest	165	3,529	4	—	3,698
Net revenues	$ 17,459	$ 15,350	$ 2,112	$ (290)	$ 34,631
Income from continuing operations before income taxes	$ 5,123	$ 3,437	$ 287	$ 1	$ 8,848
Provision for income taxes	1,318	1,333	75	—	2,726
Income from continuing operations	3,805	2,104	212	1	6,122
Income (loss) from discontinued operations, net of income taxes	(1)	—	2	—	1
Net income	3,804	2,104	214	1	6,123
Net income applicable to noncontrolling interests	155	—	(11)	—	144
Net income applicable to Morgan Stanley	$ 3,649	$ 2,104	$ 225	$ 1	$ 5,979

I/E–Intersegment Eliminations

1. Approximately 86% of Investment banking revenues and substantially all of Commissions and fees and Asset management revenues in 2018 were determined under the *Revenues from Contracts with Customers* accounting update.
2. Institutional Securities Investment banking revenues in 2018 are composed of $2,436 million of Advisory and $3,652 million of Underwriting revenues. Institutional Securities Investment banking revenues in 2017 are composed of $2,077 million of Advisory and $3,460 million of Underwriting revenues. Institutional Securities Investment banking revenues in 2016 are composed of $2,220 million of Advisory and $2,256 million of Underwriting revenues.
3. The Firm enters into certain contracts that contain a current obligation to perform services in the future. Excluding contracts where billing is commensurate with the value of the services performed at each stage of the contract, contracts with variable consideration that is subject to reversal, and contracts with less than one year duration, we expect to record the following approximate revenues in the future: $100 million per year in 2019 and 2020; between $40 million and $60 million per year in 2021 through 2025; and $10 million per year in 2026 through 2035. These revenues are primarily related to certain commodities contracts with customers.
4. Includes $2,821 million in revenues recognized in 2018 where some or all services were performed in prior periods. This amount is primarily composed of investment banking advisory fees and distribution fees.

Net Discrete Tax Provision (Benefit) by Segment

$ in millions	IS	WM	IM	Total
2018				
Intermittent net discrete tax provision (benefit)	**$ (182)**	**$ —**	**$ (21)**	**$ (203)**
Recurring:				
Employee share-based awards[1]	**(104)**	**(50)**	**(11)**	**(165)**
Total	**$ (286)**	**$ (50)**	**$ (32)**	**$ (368)**
2017				
Intermittent:				
Tax Act enactment[2]	$ 705	$ 402	$ 94	$ 1,201
Remeasurement of reserves and related interest	(168)	—	—	(168)
Other	(66)	9	(8)	(65)
Total intermittent net discrete tax provision (benefit)	$ 471	$ 411	$ 86	$ 968
Recurring:				
Employee share-based awards[1]	(93)	(54)	(8)	(155)
Total	$ 378	$ 357	$ 78	$ 813
2016[3]				$ (68)

1. Beginning in 2017, with the adoption of the accounting update, *Improvements to Employee Share-Based Payment Accounting*, the income tax consequences associated with employee share-based awards are recognized in Provision for income taxes in the income statements. The Firm considers these employee share-based award related provisions (benefits) to be recurring-type ("Recurring") discrete tax items, as we anticipate some level of conversion activity each year.
2. For further discussion on the Tax Act, see Note 20.
3. The intermittent net discrete tax benefit for 2016 was principally within the Institutional Securities business segment.

Total Assets by Business Segment

$ in millions	At December 31, 2018	At December 31, 2017
Institutional Securities	**$ 646,427**	$ 664,974
Wealth Management	**202,392**	182,009
Investment Management	**4,712**	4,750
Total[1]	**$ 853,531**	$ 851,733

1. Parent assets have been fully allocated to the business segments.

Additional Segment Information—Investment Management

Net Unrealized Performance-Based Fees

$ in millions	At December 31, 2018	At December 31, 2017
Net cumulative unrealized performance-based fees at risk of reversing	**$ 434**	$ 442

The Firm's portion of net cumulative unrealized performance-based fees (for which the Firm is not obligated to pay compensation) are at risk of reversing if the fund performance falls below the stated investment management agreement benchmarks. See Note 12 for information regarding general partner guarantees, which include potential obligations to return performance fee distributions previously received.

Reduction of Fees due to Fee Waivers

$ in millions	**2018**	2017	2016
Fee waivers	**$ 56**	$ 86	$ 91

The Firm waives a portion of its fees in the Investment Management business segment from certain registered money market funds that comply with the requirements of Rule 2a-7 of the Investment Company Act of 1940.

Separately, the Firm's employees, including its senior officers, may participate on the same terms and conditions as other investors in certain funds that the Firm sponsors primarily for client investment, and the Firm may waive or lower applicable fees and charges for its employees.

Geographic Information

The Firm operates in both U.S. and non-U.S. markets. The Firm's non-U.S. business activities are principally conducted and managed through EMEA and Asia locations. The net revenues disclosed in the following table reflect the regional view of the Firm's consolidated net revenues on a managed basis, based on the following methodology:

Institutional Securities: client location for advisory and equity underwriting, revenue recording location for debt underwriting, trading desk location for sales and trading.

Wealth Management: representatives operate in the Americas.

Investment Management: client location, except certain closed-end funds, which are based on asset location.

Net Revenues by Region

$ in millions	**2018**	2017	2016
Americas	**$ 29,301**	$ 27,817	$ 25,487
EMEA	**6,092**	5,714	4,994
Asia	**4,714**	4,414	4,150
Total	**$ 40,107**	$ 37,945	$ 34,631

Income from Continuing Operations before Income Tax Expense (Benefit)

$ in millions	**2018**	2017	2016
U.S.	**$ 7,804**	$ 5,686	$ 5,694
Non-U.S.[1]	**3,433**	4,717	3,154
Total	**$ 11,237**	$ 10,403	$ 8,848

1. Non-U.S. income is defined as income generated from operations located outside the U.S.

Total Assets by Region

$ in millions	**At December 31, 2018**	At December 31, 2017
Americas	**$ 576,532**	$ 570,489
EMEA	**200,194**	191,398
Asia	**76,805**	89,846
Total	**$ 853,531**	$ 851,733

Revenue Information

Trading Revenues by Product Type

$ in millions	**2018**	2017	2016
Interest rate	**$ 2,696**	$ 2,091	$ 1,522
Foreign exchange	**914**	647	1,156
Equity security and index[1]	**6,157**	6,291	5,690
Commodity and other	**1,174**	740	56
Credit	**610**	1,347	1,785
Total	**$ 11,551**	$ 11,116	$ 10,209

1. Dividend income is included within equity security and index contracts.

The previous table summarizes gains and losses included in Trading revenues in the income statements. These activities include revenues related to derivative and non-derivative financial instruments. The Firm generally utilizes financial instruments across a variety of product types in connection with its market-making and related risk management strategies. The trading revenues presented in the table are not representative of the manner in which the Firm manages its business activities and are prepared in a manner similar to the presentation of trading revenues for regulatory reporting purposes.

Change in Revenues and Expenses as a Result of Application of the New Revenue Recognition Standard

$ in millions	2018
Gross presentation impact—Revenues	
Investment banking—Advisory	**$ 75**
Investment banking—Underwriting	**193**
Asset management[1]	**30**
Other	**52**
Subtotal	**350**
Gross presentation impact—Expenses	
Brokerage, clearing and exchange fees[1]	**$ 30**
Marketing and business development	**31**
Professional services	**102**
Other[2]	**187**
Subtotal	**350**
Timing impact—Revenues	
Investment banking—Advisory	**$ 15**
Asset management	**(4)**
Other	**19**
Subtotal	**30**
Net change in revenues and expenses	**$ 30**

1. Intersegment transactions of $48 million have been eliminated.
2. Primarily composed of Investment banking transaction-related costs.

As a result of adopting the accounting update *Revenue from Contracts with Customers*, the accounting for certain transactions has changed (see Note 2 for further details). As summarized in the previous table, the change is composed of transactions that are now presented on a gross basis within both Non-interest revenues and Non-interest expenses, as well as transactions where revenues are recognized with different timing compared with the previous GAAP. For example, timing impacts shown as negative amounts in the previous table represent revenues for which recognition has been deferred to future periods under the new standard.

Receivables from Contracts with Customers

$ in millions	At December 31, 2018	At January 1, 2018
Customer and other receivables	**$ 2,308**	$ 2,805

Receivables from contracts with customers, which are included within Customer and other receivables in the balance sheets, arise when the Firm has both recorded revenues and has the right per the contract to bill the customer.

22. Parent Company

Parent Company Only—Condensed Income Statements and Comprehensive Income Statements

$ in millions	2018	2017	2016
Revenues			
Dividends from subsidiaries[1]	**$ 4,973**	$ 2,567	$ 2,448
Trading	**54**	(260)	96
Other	**(5)**	64	38
Total non-interest revenues	**5,022**	2,371	2,582
Interest income	**5,172**	3,783	3,008
Interest expense	**4,816**	4,079	4,036
Net interest	**356**	(296)	(1,028)
Net revenues	**5,378**	2,075	1,554
Non-interest expenses	**225**	240	126
Income before income taxes	**5,153**	1,835	1,428
Provision for (benefit from) income taxes	**22**	(206)	(383)
Net income before undistributed gain of subsidiaries	**5,131**	2,041	1,811
Undistributed gain of subsidiaries	**3,617**	4,070	4,168
Net income	**8,748**	6,111	5,979
OCI, net of tax:			
Foreign currency translation adjustments	**(114)**	219	(23)
Change in net unrealized gains (losses) on AFS securities	**(272)**	41	(269)
Pensions, postretirement and other	**137**	(117)	(100)
Change in net DVA	**1,454**	(560)	(283)
Comprehensive income	**$ 9,953**	$ 5,694	$ 5,304
Net income	**$ 8,748**	$ 6,111	$ 5,979
Preferred stock dividends and other	**526**	523	471
Earnings applicable to Morgan Stanley common shareholders	**$ 8,222**	$ 5,588	$ 5,508

1. In 2018, we recorded approximately $3 billion of dividends from bank subsidiaries.

Parent Company Only—Condensed Balance Sheets

$ in millions, except share data	At December 31, 2018	At December 31, 2017
Assets		
Cash and cash equivalents:		
Cash and due from banks	**$ 6**	$ 11
Deposits with bank subsidiaries	**7,476**	8,120
Restricted cash	**—**	1
Trading assets at fair value	**10,039**	5,752
Investment Securities (includes **$15,500** and $13,219 at fair value)	**22,588**	19,268
Securities purchased under agreement to resell with affiliates	**25,535**	38,592
Advances to subsidiaries:		
Bank and BHC	**30,954**	30,145
Non-bank	**97,405**	112,557
Equity investments in subsidiaries:		
Bank and BHC	**42,848**	35,971
Non-bank	**32,418**	31,856
Other assets	**1,244**	2,704
Total assets	**$ 270,513**	$ 284,977
Liabilities		
Trading liabilities at fair value	**$ 276**	$ 148
Securities sold under agreements to repurchase with affiliates	**—**	8,753
Payables to and advances from subsidiaries	**30,861**	28,781
Other liabilities and accrued expenses	**2,548**	2,421
Borrowings (includes **$18,599** and $22,603 at fair value)	**156,582**	167,483
Total liabilities	**190,267**	207,586
Commitments and contingent liabilities (see Note 12)		
Equity		
Preferred stock	**8,520**	8,520
Common stock, $0.01 par value:		
Shares authorized: **3,500,000,000**; Shares issued: **2,038,893,979**; Shares outstanding: **1,699,828,943** and 1,788,086,805 shares	**20**	20
Additional paid-in capital	**23,794**	23,545
Retained earnings	**64,175**	57,577
Employee stock trusts	**2,836**	2,907
AOCI	**(2,292)**	(3,060)
Common stock held in treasury at cost, $0.01 par value (**339,065,036** and 250,807,174 shares)	**(13,971)**	(9,211)
Common stock issued to employee stock trusts	**(2,836)**	(2,907)
Total shareholders' equity	**80,246**	77,391
Total liabilities and equity	**$ 270,513**	$ 284,977

Parent Company Only—Condensed Cash Flow Statements

$ in millions	2018	2017	2016
Cash flows from operating activities			
Net income	**$ 8,748**	$ 6,111	$ 5,979
Adjustments to reconcile net income to net cash provided by (used for) operating activities:			
Undistributed gain of subsidiaries	**(3,617)**	(4,070)	(4,168)
Other operating activities	**964**	1,087	1,367
Changes in assets and liabilities	**(7,231)**	619	(151)
Net cash provided by (used for) operating activities	**(1,136)**	3,747	3,027
Cash flows from investing activities			
Proceeds from (payments for):			
Investment securities:			
Purchases	**(8,155)**	(5,263)	—
Proceeds from sales	**1,252**	3,620	—
Proceeds from paydowns and maturities	**3,729**	1,038	—
Securities purchased under agreements to resell with affiliates	**13,057**	19,314	(10,846)
Securities sold under agreements to repurchase with affiliates	**(8,753)**	8,753	—
Advances to and investments in subsidiaries[1]	**11,841**	(35,686)	(141)
Net cash provided by (used for) investing activities	**12,971**	(8,224)	(10,987)
Cash flows from financing activities			
Proceeds from:			
Issuance of preferred stock, net of issuance costs	**—**	994	—
Issuance of Borrowings	**14,918**	36,833	32,795
Payments for:			
Borrowings	**(21,418)**	(24,668)	(24,793)
Repurchases of common stock and employee tax withholdings	**(5,566)**	(4,292)	(3,933)
Cash dividends	**(2,375)**	(2,085)	(1,746)
Net change in advances from subsidiaries[1]	**2,122**	1,861	(2,361)
Other financing activities	**—**	26	66
Net cash provided by (used for) financing activities	**(12,319)**	8,669	28
Effect of exchange rate changes on cash and cash equivalents	**(166)**	221	(250)
Net increase (decrease) in cash and cash equivalents	**(650)**	4,413	(8,182)
Cash and cash equivalents, at beginning of period	**8,132**	3,719	11,901
Cash and cash equivalents, at end of period	**$ 7,482**	$ 8,132	$ 3,719
Cash and cash equivalents:			
Cash and due from banks	**$ 6**	$ 11	$ 116
Deposits with bank subsidiaries	**7,476**	8,120	3,600
Restricted cash	**—**	1	3
Cash and cash equivalents, at end of period	**$ 7,482**	$ 8,132	$ 3,719

Supplemental Disclosure of Cash Flow Information

Cash payments for:			
Interest	**$ 4,798**	$ 3,570	$ 3,650
Income taxes, net of refunds	**437**	201	201

1. Reclassifications have been made to prior periods to conform to the current presentation.

Parent Company's Borrowings with Original Maturities Greater than One Year

$ in millions	At December 31, 2018	At December 31, 2017
Senior	$ 146,492	$ 157,255
Subordinated	10,090	10,228
Total	**$ 156,582**	$ 167,483

Transactions with Subsidiaries

The Parent Company has transactions with its consolidated subsidiaries determined on an agreed-upon basis and has guaranteed certain unsecured lines of credit and contractual obligations on certain of its consolidated subsidiaries.

Guarantees

In the normal course of its business, the Parent Company guarantees certain of its subsidiaries' obligations under derivative and other financial arrangements. The Parent Company records Trading assets and Trading liabilities, which include derivative contracts, at fair value in its condensed balance sheets.

The Parent Company also, in the normal course of its business, provides standard indemnities to counterparties on behalf of its subsidiaries for taxes, including U.S. and foreign withholding taxes, on interest and other payments made on derivatives, securities and stock lending transactions, and certain annuity products. These indemnity payments could be required based on a change in the tax laws or change in interpretation of applicable tax rulings. Certain contracts contain provisions that enable the Parent Company to terminate the agreement upon the occurrence of such events. The maximum potential amount of future payments that the Parent Company could be required to make under these indemnifications cannot be estimated. The Parent Company has not recorded any contingent liability in its condensed financial statements for these indemnifications and believes that the occurrence of any events that would trigger payments under these contracts is remote.

The Parent Company has issued guarantees on behalf of its subsidiaries to various U.S. and non-U.S. exchanges and clearinghouses that trade and clear securities and/or futures contracts. Under these guarantee arrangements, the Parent Company may be required to pay the financial obligations of its subsidiaries related to business transacted on or with the exchanges and clearinghouses in the event of a subsidiary's default on its obligations to the exchange or the clearinghouse. The Parent Company has not recorded any contingent liability in its condensed financial statements for these arrangements and believes that any potential requirements to make payments under these arrangements are remote.

Guarantees of Debt Instruments and Warrants Issued by Subsidiaries

$ in millions	At December 31, 2018	At December 31, 2017
Aggregate balance	$ 24,286	$ 19,392

Guarantees under Subsidiary Lease Obligations

$ in millions	At December 31, 2018	At December 31, 2017
Aggregate balance[1]	$ 1,003	$ 1,082

1. Amounts primarily relate to the U.K.

Finance Subsidiary

The Parent Company fully and unconditionally guarantees the securities issued by Morgan Stanley Finance LLC, a 100%-owned finance subsidiary.

Resolution and Recovery Planning

As indicated in the Firm's 2017 resolution plan submitted to the Federal Reserve and the FDIC, the Parent Company has amended and restated its support agreement with its material entities, as defined in the Firm's 2017 resolution plan. Under the secured amended and restated support agreement, upon the occurrence of a resolution scenario, the Parent Company would be obligated to contribute or loan on a subordinated basis all of its contributable material assets, other than shares in subsidiaries of the Parent Company and certain intercompany receivables, to provide capital and liquidity, as applicable, to its material entities.

23. Quarterly Results (Unaudited)

	2018 Quarter			
$ in millions, except per share data	First	Second	Third	Fourth[2,3]
Total non-interest revenues[1]	$ 10,102	$ 9,704	$ 8,936	$ 7,559
Net interest	975	906	936	989
Net revenues	11,077	10,610	9,872	8,548
Total non-interest expenses[1]	7,657	7,501	7,021	6,691
Income from continuing operations before income taxes	3,420	3,109	2,851	1,857
Provision for income taxes	714	640	696	300
Income from continuing operations	2,706	2,469	2,155	1,557
Income (loss) from discontinued operations	(2)	(2)	(1)	1
Net income	2,704	2,467	2,154	1,558
Net income applicable to noncontrolling interests	36	30	42	27
Net income applicable to Morgan Stanley	$ 2,668	$ 2,437	$ 2,112	$ 1,531
Preferred stock dividends and other	93	170	93	170
Earnings applicable to Morgan Stanley common shareholders	$ 2,575	$ 2,267	$ 2,019	$ 1,361
Earnings (loss) per basic common share[4]:				
Income from continuing operations	$ 1.48	$ 1.32	$ 1.19	$ 0.81
Income (loss) from discontinued operations	—	—	—	—
Earnings per basic common share	$ 1.48	$ 1.32	$ 1.19	$ 0.81
Earnings (loss) per diluted common share[4]:				
Income from continuing operations	$ 1.46	$ 1.30	$ 1.17	$ 0.80
Income (loss) from discontinued operations	(0.01)	—	—	—
Earnings per diluted common share	$ 1.45	$ 1.30	$ 1.17	$ 0.80
Dividends declared per common share	$ 0.25	$ 0.25	$ 0.30	$ 0.30
Book value per common share	$ 39.19	$ 40.34	$ 40.67	$ 42.20

	2017 Quarter			
$ in millions, except per share data	First	Second	Third	Fourth[2,3]
Total non-interest revenues	$ 8,974	$ 8,752	$ 8,414	$ 8,505
Net interest	771	751	783	995
Net revenues	9,745	9,503	9,197	9,500
Total non-interest expenses	6,937	6,861	6,715	7,029
Income from continuing operations before income taxes	2,808	2,642	2,482	2,471
Provision for income taxes	815	846	697	1,810
Income from continuing operations	1,993	1,796	1,785	661
Income (loss) from discontinued operations	(22)	(5)	6	2
Net income	1,971	1,791	1,791	663
Net income applicable to noncontrolling interests	41	34	10	20
Net income applicable to Morgan Stanley	$ 1,930	$ 1,757	$ 1,781	$ 643
Preferred stock dividends and other	90	170	93	170
Earnings applicable to Morgan Stanley common shareholders	$ 1,840	$ 1,587	$ 1,688	$ 473
Earnings (loss) per basic common share[4]:				
Income from continuing operations	$ 1.03	$ 0.89	$ 0.95	$ 0.27
Income (loss) from discontinued operations	(0.01)	—	—	—
Earnings per basic common share	$ 1.02	$ 0.89	$ 0.95	$ 0.27
Earnings (loss) per diluted common share[4]:				
Income from continuing operations	$ 1.01	$ 0.87	$ 0.93	$ 0.26
Income (loss) from discontinued operations	(0.01)	—	—	—
Earnings per diluted common share	$ 1.00	$ 0.87	$ 0.93	$ 0.26
Dividends declared per common share	$ 0.20	$ 0.20	$ 0.25	$ 0.25
Book value per common share	$ 37.48	$ 38.22	$ 38.87	$ 38.52

1. Effective January 1, 2018, the Firm adopted new accounting guidance related to *Revenue from Contracts with Customers,* which among other things, requires a gross presentation of certain costs that were previously netted against net revenues. Prior periods have not been restated pursuant to this guidance. For further information on the full impact of adoption of this new accounting guidance, see the following table and Note 21.
2. The fourth quarter of 2018 included net intermittent discrete tax benefits of $111 million, primarily associated with the remeasurement of reserves and related interest due to the resolution of multi-jurisdiction tax examinations. The fourth quarter of 2017 included net intermittent discrete tax benefits of $168 million, primarily related to the remeasurement of reserves and related interest due to new information regarding the status of multi-year IRS tax examinations. The fourth quarter of 2017 also included an intermittent net discrete tax provision of approximately $1.2 billion, primarily related to the remeasurement of certain net deferred tax assets using the lower corporate tax rate as a result of the enactment of the Tax Act. Income tax consequences arising from conversion of employee share-based awards are excluded from intermittent net discrete tax provisions (benefits), as we anticipate conversion activity each year (see Notes 2 and 20).
3. Total non-interest revenues includes impairments of the Investment Management business segment's interest in a third-party asset manager of $46 million in 2018 and $53 million in 2017.
4. The sum of the quarters' earnings per common share may not equal the annual amounts due to the averaging effect of the number of shares and share equivalents throughout the year.

Quarterly Change in Revenue and Expense as a Result of Application of the New Revenue Recognition Standard

	2018 Quarter			
$ in millions	First	Second	Third	Fourth
Non-interest revenues				
Gross presentation impact[1]	**$ 79**	**$ 108**	**$ 93**	**$ 70**
Timing impact	**4**	**—**	**(12)**	**38**
Non-interest expenses				
Gross presentation impact[1]	**79**	**108**	**93**	**70**
Net change in revenue and expense	**$ 4**	**$ —**	**$ (12)**	**$ 38**

1. Intersegment transactions have been eliminated.

24. Subsequent Events

The Firm has evaluated subsequent events for adjustment to or disclosure in the financial statements through the date of this report and has not identified any recordable or disclosable events not otherwise reported in these financial statements or the notes thereto.

$ in millions	2018 Average Daily Balance	2018 Interest	2018 Average Rate	2017 Average Daily Balance	2017 Interest	2017 Average Rate	2016 Average Daily Balance	2016 Interest	2016 Average Rate
Interest earning assets									
Investment securities[1]	**$ 81,977**	**$ 1,744**	**2.1%**	$ 76,746	$ 1,334	1.7%	$ 78,562	$ 1,142	1.5%
Loans[1]	**109,681**	**4,249**	**3.9**	98,727	3,298	3.3	89,875	2,724	3.0
Securities purchased under agreements to resell and Securities borrowed[2]:									
U.S.	**134,223**	**2,262**	**1.7**	125,453	606	0.5	144,744	(172)	(0.1)
Non-U.S.	**86,430**	**(286)**	**(0.3)**	95,478	(437)	(0.5)	86,622	(202)	(0.2)
Trading assets, net of Trading liabilities[3]:									
U.S.	**57,780**	**2,144**	**3.7**	59,335	1,876	3.2	49,746	1,894	3.8
Non-U.S.	**9,014**	**248**	**2.8**	4,326	153	3.5	12,843	237	1.8
Customer receivables and Other[4]:									
U.S.	**73,695**	**2,592**	**3.5**	72,440	1,614	2.2	78,766	1,080	1.4
Non-U.S.	**54,396**	**939**	**1.7**	40,179	553	1.4	34,214	313	0.9
Total	**$ 607,196**	**$ 13,892**	**2.3%**	$ 572,684	$ 8,997	1.6%	$ 575,372	$ 7,016	1.2%
Interest bearing liabilities									
Deposits[1]	**$ 169,226**	**$ 1,255**	**0.7%**	$ 151,442	$ 187	0.1%	$ 155,143	$ 83	0.1%
Borrowings[1, 5]	**191,692**	**5,031**	**2.6**	184,453	4,285	2.3	163,647	3,606	2.2
Securities sold under agreements to repurchase and Securities loaned[6]:									
U.S.	**24,426**	**1,408**	**5.8**	30,866	900	2.9	32,359	555	1.7
Non-U.S.	**37,319**	**490**	**1.3**	39,396	337	0.9	31,491	422	1.3
Customer payables and Other[7]:									
U.S.	**120,228**	**1,061**	**0.9**	128,274	(213)	(0.2)	114,606	(1,187)	(1.0)
Non-U.S.	**70,855**	**841**	**1.2**	65,496	201	0.3	76,096	(161)	(0.2)
Total	**$ 613,746**	**$ 10,086**	**1.6%**	$ 599,927	$ 5,697	0.9%	$ 573,342	$ 3,318	0.6%
Net interest income and net interest rate spread		**$ 3,806**	**0.7%**		$ 3,300	0.7%		$ 3,698	0.6%

1. Amounts include primarily U.S. balances.
2. Includes fees paid on Securities borrowed.
3. Excludes non-interest earning assets and non-interest bearing liabilities, such as equity securities.
4. Includes interest from Customer receivables and Cash and cash equivalents. Prior period amounts have been revised to conform to the current presentation.
5. Includes structured notes, whose interest expense is considered part of its value and therefore is recorded within Trading revenues (see Notes 3 and 11 to the financial statements).
6. Includes fees received on Securities loaned. The annualized average rate was calculated using (a) interest expense incurred on all securities sold under agreements to repurchase and securities loaned transactions, whether or not such transactions were reported in the balance sheets and (b) net average on-balance sheet balances, which exclude certain securities-for-securities transactions.
7. Includes fees received from prime brokerage customers for stock loan transactions incurred to cover customers' short positions.

Financial Data Supplement (Unaudited)
Effect of Volume and Rate Changes on Net Interest Income

	2018 versus 2017			2017 versus 2016		
	Increase (Decrease) Due to Change in:			Increase (Decrease) Due to Change in:		
$ in millions	Volume	Rate	Net Change	Volume	Rate	Net Change
Interest earning assets						
Investment securities	**$ 91**	**$ 319**	**$ 410**	$ (26)	$ 218	$ 192
Loans	**366**	**585**	**951**	268	306	574
Securities purchased under agreements to resell and Securities borrowed:						
U.S.	**42**	**1,614**	**1,656**	23	755	778
Non-U.S.	**41**	**110**	**151**	(21)	(214)	(235)
Trading assets, net of Trading liabilities:						
U.S.	**(49)**	**317**	**268**	365	(383)	(18)
Non-U.S.	**166**	**(71)**	**95**	(157)	73	(84)
Customer receivables and Other:						
U.S.	**28**	**950**	**978**	(87)	621	534
Non-U.S.	**196**	**190**	**386**	55	185	240
Change in interest income	**$ 881**	**$ 4,014**	**$ 4,895**	$ 420	$ 1,561	$ 1,981
Interest bearing liabilities						
Deposits	**$ 22**	**$ 1,046**	**$ 1,068**	$ (2)	$ 106	$ 104
Borrowings	**168**	**578**	**746**	458	221	679
Securities sold under agreements to repurchase and Securities loaned:						
U.S.	**(188)**	**696**	**508**	(26)	371	345
Non-U.S.	**(18)**	**171**	**153**	106	(191)	(85)
Customer payables and Other:						
U.S.	**13**	**1,261**	**1,274**	(142)	1,116	974
Non-U.S.	**16**	**624**	**640**	22	340	362
Change in interest expense	**$ 13**	**$ 4,376**	**$ 4,389**	$ 416	$ 1,963	$ 2,379
Change in net interest income	**$ 868**	**$ (362)**	**$ 506**	$ 4	$ (402)	$ (398)

Deposits

	Average Daily Deposits					
	2018		2017		2016	
$ in millions	Average Amount	Average Rate	Average Amount	Average Rate	Average Amount	Average Rate
Deposits[1]:						
Savings	**$ 142,753**	**0.4%**	$ 144,870	0.1%	$ 153,387	—%
Time	**26,473**	**2.4%**	6,572	1.6%	1,756	2.4%
Total	**$ 169,226**	**0.7%**	$ 151,442	0.1%	$ 155,143	0.1%

1. The Firm's deposits were primarily held in U.S. offices.

Ratios

	2018	2017	2016
Net income to average total assets[1]	**1.0%**	0.7%	0.7%
ROE[1, 2]	**11.8%**	8.0%	8.0%
Return on total equity[1, 3]	**11.1%**	7.8%	7.8%
Dividend payout ratio[4]	**23.3%**	29.3%	24.0%
Total average common equity to average assets[1]	**8.1%**	8.2%	8.5%
Total average equity to average total assets[1]	**9.1%**	9.2%	9.4%

1. Represents a non-GAAP measure. See "Executive Summary—Selected Non-GAAP Financial Information."
2. Percentage is based on Net income applicable to Morgan Stanley less Preferred stock dividends and other as a percentage of average common equity.
3. Percentage is based on Net income applicable to Morgan Stanley as a percentage of average total equity.
4. Percentage is based on dividends declared per common share as a percentage of earnings per diluted common share.

Securities Sold under Agreements to Repurchase and Securities Loaned

$ in millions	2018	2017	2016[1]
Period-end balance	**$ 61,667**	$ 70,016	$ 70,472
Average balance[2]	**61,745**	70,262	63,850
Maximum balance at any month-end	**72,161**	77,063	72,154
Weighted average interest rate during the period[3]	**3.1%**	1.8%	1.5%
Weighted average interest rate on period-end balance[3]	**4.1%**	1.5%	0.6%

1. 2016 has been revised to conform to the current presentation.
2. The Firm calculated its average balances based upon daily amounts.
3. The weighted average interest rate was calculated using (a) interest expense incurred on all securities sold under agreements to repurchase and securities loaned transactions, whether or not such transactions were reported in the balance sheets and (b) net average or period-end balances excluding certain securities-for-securities transactions as applicable.

Cross-Border Outstandings

	At December 31, 2018				
$ in millions	Banks	Governments	Non-banking Financial Institutions	Other	Total
Country:					
Japan	**$ 16,130**	**$ 14,974**	**$ 30,301**	**$ 9,951**	**$ 71,356**
U.K.	**3,978**	**7,683**	**20,168**	**11,083**	**42,912**
Cayman Islands	**14**	**—**	**28,164**	**5,342**	**33,520**
France	**3,750**	**1,420**	**17,343**	**6,584**	**29,097**
Canada	**6,808**	**2,153**	**2,005**	**2,455**	**13,421**
Ireland	**664**	**24**	**8,466**	**4,191**	**13,345**
European Central Bank	**—**	**12,008**	**—**	**—**	**12,008**
Brazil	**2,464**	**5,074**	**579**	**2,133**	**10,250**
Germany	**822**	**1,499**	**4,137**	**3,022**	**9,480**
Luxembourg	**101**	**291**	**7,139**	**1,289**	**8,820**

	At December 31, 2017				
$ in millions	Banks	Governments	Non-banking Financial Institutions	Other	Total
Country:					
Japan	$ 12,239	$ 18,103	$ 18,125	$ 10,874	$ 59,341
U.K.	4,870	6,741	24,731	13,992	50,334
France	3,401	900	12,781	8,445	25,527
Cayman Islands	17	1	16,041	4,999	21,058
Ireland	391	52	8,577	4,601	13,621
Germany	1,045	1,191	6,286	3,765	12,287
Canada	4,225	621	3,072	3,695	11,613
Brazil	2,761	3,470	315	3,809	10,355
China	902	1,713	940	5,852	9,407
South Korea	447	2,871	1,020	4,922	9,260
Netherlands	313	982	2,446	4,377	8,118

	At December 31, 2016[1]				
$ in millions	Banks	Governments	Non-banking Financial Institutions	Other	Total
Country:					
Japan	$ 12,465	$ 12,388	$ 32,380	$ 9,264	$ 66,497
U.K.	3,589	4,794	22,456	11,637	42,476
France	3,069	6,264	15,917	7,623	32,873
Cayman Islands	5	—	16,272	3,124	19,401
Germany	1,609	3,828	4,983	3,524	13,944
Ireland	478	160	6,998	4,504	12,140
Canada	3,503	838	2,570	3,419	10,330
Brazil	1,682	4,675	159	2,236	8,752
South Korea	290	2,563	996	4,233	8,082

Cross-border outstandings are based upon the FFIEC regulatory guidelines for reporting cross-border risk. Claims include cash, customer and other receivables, securities purchased under agreements to resell, securities borrowed and cash trading instruments, but exclude commitments. Securities purchased under agreements to resell and securities borrowed are presented based on the domicile of the counterparty, without reduction for related securities collateral held. For information regarding the Firm's country risk exposure, see "Quantitative and Qualitative Disclosures about Risk—Country Risk."

The previous tables set forth cross-border outstandings for each country, excluding derivative exposure, in which cross-border outstandings exceed 1% of the Firm's consolidated assets or 20% of the Firm's total capital, whichever is less, in accordance with the FFIEC guidelines:

$ in millions	Cross-Border Exposure[2]
At December 31, 2018	
Netherlands	**$ 7,338**
At December 31, 2017	
Australia, European Central Bank, Luxembourg and India	$ 29,257
At December 31, 2016	
Singapore and Switzerland	$ 14,626

1. 2016 was revised to conform to the current presentation.
2. Cross-border exposure, including derivative contracts, that exceeds 0.75% but does not exceed 1% of the Firm's consolidated assets.

Glossary of Common Acronyms

2018 Form 10-K	Annual Report on Form 10-K for year ended December 31, 2018 filed with the SEC
ABS	Asset-backed securities
AFS	Available-for-sale
AML	Anti-money laundering
AOCI	Accumulated other comprehensive income (loss)
AUM	Assets under management or supervision
BEAT	Base erosion and anti-abuse tax
BHC	Bank holding company
bps	Basis points; one basis point equals 1/100th of 1%
CCAR	Comprehensive Capital Analysis and Review
CCyB	Countercyclical capital buffer
CDO	Collateralized debt obligation(s), including Collateralized loan obligation(s)
CDS	Credit default swaps
CECL	Current expected credit loss
CFTC	U.S. Commodity Futures Trading Commission
CLN	Credit-linked note(s)
CLO	Collateralized loan obligation(s)
CMBS	Commercial mortgage-backed securities
CMO	Collateralized mortgage obligation(s)
CVA	Credit valuation adjustment
DVA	Debt valuation adjustment
EBITDA	Earnings before interest, taxes, depreciation and amortization
ELN	Equity-linked note(s)
EMEA	Europe, Middle East and Africa
EPS	Earnings per common share
E.U.	European Union
FDIC	Federal Deposit Insurance Corporation
FFELP	Federal Family Education Loan Program
FFIEC	Federal Financial Institutions Examination Council
FHC	Financial Holding Company
FICO	Fair Isaac Corporation
FVA	Funding valuation adjustment
GILTI	Global Intangible Low-Taxed Income
GLR	Global liquidity reserve
G-SIB	Global systemically important banks
HELOC	Home Equity Line of Credit
HQLA	High-quality liquid assets
HTM	Held-to-maturity
I/E	Intersegment eliminations
IHC	Intermediate holding company
IM	Investment Management
IRS	Internal Revenue Service
IS	Institutional Securities
LCR	Liquidity coverage ratio, as adopted by the U.S. banking agencies
LIBOR	London Interbank Offered Rate
M&A	Merger, acquisition and restructuring transaction
MSBNA	Morgan Stanley Bank, N.A.
MS&Co.	Morgan Stanley & Co. LLC
MSIP	Morgan Stanley & Co. International plc
MSMS	Morgan Stanley MUFG Securities Co., Ltd.
MSPBNA	Morgan Stanley Private Bank, National Association
MSSB LLC	Morgan Stanley Smith Barney LLC

MUFG	Mitsubishi UFJ Financial Group, Inc.
MUMSS	Mitsubishi UFJ Morgan Stanley Securities Co., Ltd.
MWh	Megawatt hour
N/A	Not Applicable
NAV	Net asset value
N/M	Not Meaningful
Non-GAAP	Non-generally accepted accounting principles
NSFR	Net stable funding ratio, as proposed by the U.S. banking agencies
OCC	Office of the Comptroller of the Currency
OCI	Other comprehensive income (loss)
OIS	Overnight index swap
OTC	Over-the-counter
PRA	Prudential Regulation Authority
PSU	Performance-based stock unit
RMBS	Residential mortgage-backed securities
ROE	Return on average common equity
ROTCE	Return on average tangible common equity
RSU	Restricted stock unit
RWA	Risk-weighted assets
SEC	U.S. Securities and Exchange Commission
SLR	Supplementary leverage ratio
S&P	Standard & Poor's
SPE	Special purpose entity
SPOE	Single point of entry
TDR	Troubled debt restructuring
TLAC	Total loss-absorbing capacity
U.K.	United Kingdom
UPB	Unpaid principal balance
U.S.	United States of America
U.S. DOL	U.S. Department of Labor
U.S. GAAP	Accounting principles generally accepted in the United States of America
VaR	Value-at-Risk
VAT	Value-added tax
VIE	Variable interest entity
WACC	Implied weighted average cost of capital
WM	Wealth Management

Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

None.

Controls and Procedures

Conclusion Regarding the Effectiveness of Disclosure Controls and Procedures

Under the supervision and with the participation of the Firm's management, including the Chief Executive Officer and Chief Financial Officer, the Firm conducted an evaluation of disclosure controls and procedures, as such term is defined under Exchange Act Rule 13a-15(e). Based on this evaluation, the Chief Executive Officer and Chief Financial Officer concluded that the Firm's disclosure controls and procedures were effective as of the end of the period covered by this annual report.

Management's Report on Internal Control Over Financial Reporting

The Firm's management is responsible for establishing and maintaining adequate internal control over financial reporting. The Firm's internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles in the United States of America ("U.S. GAAP").

The internal control over financial reporting includes those policies and procedures that:

- Pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the Firm;
- Provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with U.S. GAAP, and that receipts and expenditures are being made only in accordance with authorizations of the Firm's management and directors; and
- Provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of Firm assets that could have a material effect on the Firm's financial statements.

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

Management assessed the effectiveness of the Firm's internal control over financial reporting as of December 31, 2018. In making this assessment, management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO") in *Internal Control—Integrated Framework (2013).* Based on management's assessment and those criteria, management believes that the Firm maintained effective internal control over financial reporting as of December 31, 2018.

The Firm's independent registered public accounting firm has audited and issued a report on the Firm's internal control over financial reporting, which appears below.

Report of Independent Registered Public Accounting Firm

To the Shareholders and the Board of Directors of Morgan Stanley:

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of Morgan Stanley and subsidiaries (the "Firm") as of December 31, 2018, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). In our opinion, the Firm maintained, in all material respects, effective internal control over financial reporting as of December 31, 2018, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated financial statements of the Firm as of and for the year ended December 31, 2018 and our report dated February 26, 2019, expressed an unqualified opinion on those financial statements.

Basis for Opinion

The Firm's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the Firm's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Firm in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

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

Definition and Limitations of Internal Control over Financial Reporting

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

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

/s/ Deloitte & Touche LLP
New York, New York
February 26, 2019

Changes in Internal Control Over Financial Reporting

No change in the Firm's internal control over financial reporting (as such term is defined in Exchange Act Rule 13a-15(f)) occurred during the quarter ended December 31, 2018 that materially affected, or is reasonably likely to materially affect, the Firm's internal control over financial reporting.

Other Information

None.

Unresolved Staff Comments

The Firm, like other well-known seasoned issuers, from time to time receives written comments from the staff of the SEC regarding its periodic or current reports under the Exchange Act. There are no comments that remain unresolved that the Firm received not less than 180 days before the end of the year to which this report relates that the Firm believes are material.

Properties

The Firm has offices, operations and data centers located around the world. The Firm's properties that are not owned are leased on terms and for durations that are reflective of commercial standards in the communities where these properties are located. The Firm believes the facilities owned or occupied are adequate for the purposes for which they are currently used and are well-maintained. The Firm's principal offices include the following properties:

Location	Owned/ Leased	Lease Expiration	Approximate Square Footage at December 31, 2018[1]
U.S. Locations			
1585 Broadway New York, New York (*Global Headquarters and Institutional Securities Headquarters*)	Owned	N/A	1,335,500 square feet
2000 Westchester Avenue Purchase, New York *(Wealth Management Headquarters)*	Owned	N/A	626,100 square feet
522 Fifth Avenue New York, New York *(Investment Management Headquarters)*	Owned	N/A	564,900 square feet
International Locations			
20 Bank Street London *(London Headquarters)*	Leased	2038	546,500 square feet
1 Austin Road West Kowloon *(Hong Kong Headquarters)*	Leased	2029	499,900 square feet
Otemachi Financial City South Tower Otemachi, Chiyoda-ku *(Tokyo Headquarters)*	Leased	2028	245,600 square feet

1. The indicated total aggregate square footage leased does not include space leased by branch offices.

Legal Proceedings

In addition to the matters described below, in the normal course of business, the Firm has been named, from time to time, as a defendant in various legal actions, including arbitrations, class actions and other litigation, arising in connection with its activities as a global diversified financial services institution. Certain of the actual or threatened legal actions include claims for substantial compensatory and/or punitive damages or claims for indeterminate amounts of damages. In some cases, the entities that would otherwise be the primary defendants in such cases are bankrupt or are in financial distress.

The Firm is also involved, from time to time, in other reviews, investigations and proceedings (both formal and informal) by governmental and self-regulatory agencies regarding the Firm's business, and involving, among other matters, sales and trading activities, financial products or offerings sponsored, underwritten or sold by the Firm, and accounting and operational matters, certain of which may result in adverse judgments, settlements, fines, penalties, injunctions or other relief.

The Firm contests liability and/or the amount of damages as appropriate in each pending matter. Where available information indicates that it is probable a liability had been incurred at the date of the financial statements and the Firm can reasonably estimate the amount of that loss, the Firm accrues the estimated loss by a charge to income. The Firm's future legal expenses may fluctuate from period to period, given the current environment regarding government investigations and private litigation affecting global financial services firms, including the Firm.

In many proceedings and investigations, however, it is inherently difficult to determine whether any loss is probable or even possible, or to estimate the amount of any loss. The Firm cannot predict with certainty if, how or when such proceedings or investigations will be resolved or what the eventual settlement, fine, penalty or other relief, if any, may be, particularly for proceedings and investigations where the factual record is being developed or contested or where plaintiffs or government entities seek substantial or indeterminate damages, restitution, disgorgement or penalties. Numerous issues may need to be resolved, including through potentially lengthy discovery and determination of important factual matters, determination of issues related to class certification and the calculation of damages or other relief, and by addressing novel or unsettled legal questions relevant to the proceedings or investigations in question, before a loss or additional loss or range of loss or additional loss can be reasonably estimated for a proceeding or investigation. Subject to the foregoing, the Firm believes, based on current knowledge and after consultation with counsel, that the outcome of such proceedings and investigations will not have a material adverse effect on the financial condition of the Firm, although the outcome of such proceedings or investigations could be material to the Firm's operating results and cash flows for a particular period depending on, among other things, the level of the Firm's revenues or income for such period.

While the Firm has identified below certain proceedings that the Firm believes to be material, individually or collectively, there can be no assurance that additional material losses will not be incurred from claims that have not yet been asserted or are not yet determined to be material.

Residential Mortgage and Credit Crisis Related Matters

On July 15, 2010, China Development Industrial Bank ("CDIB") filed a complaint against the Firm, styled *China Development Industrial Bank v. Morgan Stanley & Co. Incorporated et al.*, which is pending in the Supreme Court of the State of New York, New York County ("Supreme Court of NY"). The complaint relates to a $275 million CDS referencing the super senior portion of the STACK 2006-1 CDO. The complaint asserts claims for common law fraud, fraudulent inducement and fraudulent concealment and alleges that the Firm misrepresented the risks of the STACK 2006-1 CDO to CDIB, and that the Firm knew that the assets backing the CDO were of poor quality when it entered into the CDS with CDIB. The complaint seeks compensatory damages related to the approximately $228 million that CDIB alleges it has already lost under the CDS, rescission of CDIB's obligation to pay an additional $12 million, punitive damages, equitable relief, pre- and post-judgment interest, fees and costs. On February 28, 2011, the court denied the Firm's motion to dismiss the complaint. On December 21, 2018, the court denied the Firm's motion for summary judgment and granted in part the Firm's motion for sanctions related to the spoliation of evidence. On January 18, 2019, CDIB filed a motion to clarify and resettle the portion of the court's December 21, 2018 order granting spoliation sanctions. On January 24, 2019, CDIB filed a notice of appeal from the court's December 21, 2018 order, and on January 25, 2019, the Firm filed a notice of appeal from the same order.

On May 17, 2013, plaintiff in *IKB International S.A. in Liquidation, et al. v. Morgan Stanley, et al.* filed a complaint against the Firm and certain affiliates in the Supreme Court of NY. The complaint alleges that defendants made material misrepresentations and omissions in the sale to plaintiff of certain mortgage pass-through certificates backed by securitization trusts containing residential mortgage loans. The total amount of certificates allegedly sponsored, underwritten and/or sold by the Firm to plaintiff was approximately $133 million. The complaint alleges causes of action against the Firm for common law fraud, fraudulent concealment, aiding and abetting fraud, and negligent misrepresentation, and seeks, among other things, compensatory and punitive damages. On October 29, 2014, the court granted in part and denied in part the Firm's motion to dismiss. All claims regarding four certificates were dismissed. After these dismissals, the remaining amount of certificates allegedly issued by the Firm or sold to plaintiff by the Firm was approximately $116 million. On August 11, 2016, the Appellate Division, First Department ("First Department") affirmed the trial court's order denying in part the Firm's motion to dismiss the complaint.

On July 2, 2013, Deutsche Bank, in its capacity as trustee, became the named plaintiff in *Federal Housing Finance Agency, as Conservator for the Federal Home Loan Mortgage Corporation, on behalf of the Trustee of the Morgan Stanley ABS Capital I Inc. Trust, Series 2007-NC1 (MSAC 2007-NC1) v. Morgan Stanley ABS Capital I Inc.*, and filed a complaint in the Supreme Court of NY under the caption *Deutsche Bank National Trust Company, as Trustee for the Morgan Stanley ABS Capital I Inc. Trust, Series 2007-NC1 v. Morgan Stanley ABS Capital I, Inc.* On February 3, 2014, the plaintiff filed an amended complaint, which asserts claims for breach of contract and breach of the implied covenant of good faith and fair dealing and alleges, among other things, that the loans in the trust, which had an original principal balance of approximately $1.25 billion, breached various representations and warranties. The amended complaint seeks, among other relief, specific performance of the loan breach remedy procedures in the transaction documents, unspecified damages, rescission and interest. On April 12, 2016, the court granted in part and denied in part the Firm's motion to dismiss the amended complaint, dismissing all claims except a single claim alleging failure to notify, regarding which the motion was denied without prejudice. On December 9, 2016, the Firm renewed its motion to dismiss that notification claim. On January 17, 2017, the First Department affirmed the lower court's April 12, 2016 order. On April 13, 2017, the First Department denied plaintiff's motion for leave to appeal to the New York Court of Appeals. On March 8, 2018, the trial court denied the Firm's renewed motion to dismiss the notification claims.

On July 8, 2013, U.S. Bank National Association, in its capacity as trustee, filed a complaint against the Firm styled *U.S. Bank National Association, solely in its capacity as Trustee of the Morgan Stanley Mortgage Loan Trust 2007-2AX (MSM 2007-2AX) v. Morgan Stanley Mortgage Capital Holdings LLC, Successor-by-Merger to Morgan Stanley Mortgage Capital Inc. and GreenPoint Mortgage Funding, Inc.*, pending in the Supreme Court of NY. The complaint asserts claims for breach of contract and alleges, among other things, that the loans in the trust, which had an original principal balance of approximately $650 million, breached various representations and warranties. The complaint seeks, among other relief, specific performance of the loan breach remedy procedures in the transaction documents, unspecified damages and interest. On November 24, 2014, the court granted in part and denied in part the Firm's motion to dismiss the complaint. On August 13, 2018, the Firm filed a motion to renew its motion to dismiss.

On November 6, 2013, Deutsche Bank, in its capacity as trustee, became the named plaintiff in *Federal Housing Finance Agency, as Conservator for the Federal Home Loan Mortgage Corporation, on behalf of the Trustee of the Morgan Stanley ABS Capital I Inc. Trust, Series 2007-NC3 (MSAC 2007-NC3) v. Morgan Stanley Mortgage Capital Holdings LLC*, and filed a complaint in the Supreme Court of NY under the caption *Deutsche Bank National Trust Company, solely in its capacity as Trustee for Morgan Stanley ABS Capital I Inc. Trust, Series 2007-NC3 v. Morgan Stanley Mortgage Capital Holdings LLC, as Successor-by-Merger to Morgan Stanley Mortgage Capital Inc.* The complaint asserts claims for breach of contract and breach of the implied covenant of good faith and fair dealing and alleges, among other things, that the loans in the trust, which had an original principal balance of approximately $1.3 billion, breached various representations and warranties. The complaint seeks, among other relief, specific performance of the loan breach remedy procedures in the transaction documents, unspecified damages, rescission, interest and costs. On April 12, 2016, the court granted the Firm's motion to dismiss the complaint, and granted the plaintiff the ability to seek to replead certain aspects of the complaint. On January 17, 2017, the First Department affirmed the lower court's order granting the motion to dismiss the complaint. On January 9, 2017, plaintiff filed a motion to amend its complaint. On April 13, 2017, the First Department denied plaintiff's motion for leave to appeal to the New York Court of Appeals. On March 8, 2018, the trial court granted plaintiff's motion to amend its complaint to include failure to notify claims. On March 19, 2018, the Firm filed an answer to plaintiff's amended complaint.

On September 19, 2014, Financial Guaranty Insurance Company ("FGIC") filed a complaint against the Firm in the Supreme Court of NY, styled *Financial Guaranty Insurance Company v. Morgan Stanley ABS Capital I Inc. et al.* relating to a securitization issued by Basket of Aggregated Residential NIMS 2007-1 Ltd. The complaint asserts claims for breach of contract and alleges, among other things, that the net interest margin securities ("NIMS") in the trust breached various representations and warranties. FGIC issued a financial guaranty policy with respect to certain notes that had an original balance of approximately $475 million. The complaint seeks, among other relief, specific performance of the NIMS breach remedy procedures in the transaction documents, unspecified damages, reimbursement of certain payments made pursuant to the transaction documents, attorneys' fees and interest. On November 24, 2014, the Firm filed a motion to dismiss the complaint, which the court denied on January 19, 2017. On February 24, 2017, the Firm filed a notice of appeal of the denial of its motion to dismiss the complaint and perfected its appeal on November 22, 2017. On September 13, 2018, the court affirmed the lower court's order denying the Firm's motion to dismiss the complaint.

On September 23, 2014, FGIC filed a complaint against the Firm in the Supreme Court of NY styled *Financial Guaranty Insurance Company v. Morgan Stanley ABS Capital I Inc. et al*. relating to the Morgan Stanley ABS Capital I Inc. Trust 2007-NC4. The complaint asserts claims for breach of contract and fraudulent inducement and alleges, among other things, that the loans in the trust breached various representations and warranties and defendants made untrue statements and material omissions to induce FGIC to issue a financial guaranty policy on certain classes of certificates that had an original balance of approximately $876 million. The complaint seeks, among other relief, specific performance of the loan breach remedy procedures in the transaction documents, compensatory, consequential and punitive damages, attorneys' fees and interest. On January 23, 2017, the court denied the Firm's motion to dismiss the complaint. On February 24, 2017, the Firm filed a notice of appeal of the denial of its motion to dismiss the complaint and perfected its appeal on November 22, 2017. On September 13, 2018, the First Department affirmed in part and reversed in part the lower court's order denying the Firm's motion to dismiss the complaint. On December 20, 2018, the First Department denied plaintiff's motion for leave to appeal to the New York Court of Appeals or, in the alternative, for reargument.

On January 23, 2015, Deutsche Bank National Trust Company, in its capacity as trustee, filed a complaint against the Firm styled *Deutsche Bank National Trust Company solely in its capacity as Trustee of the Morgan Stanley ABS Capital I Inc. Trust 2007-NC4 v. Morgan Stanley Mortgage Capital Holdings LLC as Successor-by-Merger to Morgan Stanley Mortgage Capital Inc., and Morgan Stanley ABS Capital I Inc.*, pending in the Supreme Court of NY. The complaint asserts claims for breach of contract and alleges, among other things, that the loans in the trust, which had an original principal balance of approximately $1.05 billion, breached various representations and warranties. The complaint seeks, among other relief, specific performance of the loan breach remedy procedures in the transaction documents, compensatory, consequential, rescissory, equitable and punitive damages, attorneys' fees, costs and other related expenses, and interest. On December 11, 2015, the court granted in part and denied in part the Firm's motion to dismiss the complaint. . On October 19, 2018, the court granted the Firm's motion for leave to amend its answer and to stay the case pending resolution of Deutsche Bank National Trust Company's appeal to the New York Court of Appeals in another case. On January 17, 2019, the First Department reversed the trial court's order to the extent that it had granted in part the Firm's motion to dismiss the complaint.

On April 1, 2016, the California Attorney General's Office filed an action against the Firm in California state court styled *California v. Morgan Stanley, et al.*, on behalf of California investors, including the California Public Employees' Retirement System and the California Teachers' Retirement System. The complaint alleges that the Firm made misrepresentations and omissions regarding RMBS and notes issued by the Cheyne SIV, and asserts violations of the California False Claims Act and other state laws and seeks treble damages, civil penalties, disgorgement, and injunctive relief. On September 30, 2016, the court granted the Firm's demurrer, with leave to replead. On October 21, 2016, the California Attorney General filed an amended complaint. On January 25, 2017, the court denied the Firm's demurrer with respect to the amended complaint.

Antitrust Related Matters

The Firm and other financial institutions are responding to a number of governmental investigations and civil litigation matters related to allegations of anticompetitive conduct in various aspects of the financial services industry, including the matters described below.

Beginning in February of 2016, the Firm was named as a defendant in multiple purported antitrust class actions now consolidated into a single proceeding in the United States District Court for the Southern District of New York ("SDNY") styled *In Re: Interest Rate Swaps Antitrust Litigation*. Plaintiffs allege, inter alia, that the Firm, together with a number of other financial institution defendants, violated U.S. and New York state antitrust laws from 2008 through December of 2016 in connection with their alleged efforts to prevent the development of electronic exchange-based platforms for interest rates swaps trading. Complaints were filed both on behalf of a purported class of investors who purchased interest rates swaps from defendants, as well as on behalf of two swap execution facilities that allegedly were thwarted by the defendants in their efforts to develop such platforms. The consolidated complaints seek, among other relief, certification of the investor class of plaintiffs and treble damages. On July 28, 2017, the court granted in part and denied in part the defendants' motion to dismiss the complaints.

In August of 2017, the Firm was named as a defendant in a purported antitrust class action in the United States District Court for the SDNY styled *Iowa Public Employees' Retirement System et al. v. Bank of America Corporation et al*. Plaintiffs allege, inter alia, that the Firm, together with a number of other financial institution defendants, violated U.S. antitrust laws and New York state law in connection with their alleged efforts to prevent the development of electronic exchange-based platforms for securities lending. The class action complaint was filed on behalf of a purported class of borrowers and lenders who entered into stock loan transactions with the defendants. The class action complaint seeks, among other relief, certification of the class of plaintiffs and treble damages. On September 27, 2018, the court denied the defendants' motion to dismiss the class action complaint.

European Matters

On October 11, 2011, an Italian financial institution, Banco Popolare Societá Cooperativa ("Banco Popolare"), filed a civil claim against the Firm in the Milan courts, styled *Banco Popolare Societá Cooperativa v Morgan Stanley & Co. International plc & others*, related to its purchase of €100 million of bonds issued by Parmalat. The claim asserted by Banco Popolare alleges, among other things, that the Firm was aware of Parmalat's impending insolvency and conspired with others to deceive Banco Popolare into buying bonds by concealing both Parmalat's true financial condition and certain features of the bonds from the market and Banco Popolare. Banco Popolare seeks damages of €76 million (approximately $87 million) plus damages for loss of opportunity and moral damages. The Firm filed its answer on April 20, 2012. On September 11, 2018, the court dismissed in full the claim against the Firm. The plaintiff has until March 11, 2019 to file an appeal.

On June 22, 2017, the public prosecutor for the Court of Accounts for the Republic of Italy filed a claim against the Firm styled Case No. 2012/00406/MNV, which is pending in the Regional Prosecutor's Office at the Judicial Section of the Court of Auditors for Lazio, Italy. The claim relates to certain derivative transactions between the Republic of Italy and the Firm. The transactions were originally entered into between 1999 and 2005, and were restructured (and certain of the transactions were terminated) in December 2011 and January 2012. The claim alleges, inter alia, that the Firm effectively acted as an agent of the state in connection with these transactions and asserts claims related to, among other things, whether the Ministry of Finance was authorized to enter into these transactions, whether the transactions were appropriate and whether the Firm's conduct related to the termination of certain transactions was proper. The prosecutor is seeking damages through an administrative process against the Firm for €2.76 billion (approximately $3.2 billion). On March 30, 2018, the Firm filed its defense to the claim. On June 15, 2018, the Court issued a decision declining jurisdiction and dismissing the claim against the Firm. A hearing of the public prosecutor's appeal was held on January 10, 2019.

In matters styled *Case number 15/3637* and *Case number 15/4353*, the Dutch Tax Authority ("Dutch Authority") has challenged in the District Court in Amsterdam the prior set-off by the Firm of approximately €124 million (approximately $142 million) plus accrued interest of withholding tax credits against the Firm's corporation tax liabilities for the tax years 2007 to 2013. The Dutch Authority alleges that the Firm was not entitled to receive the withholding tax credits on the basis, inter alia, that a Firm subsidiary did not hold legal title to certain securities subject to withholding tax on the relevant dates. The Dutch Authority has also alleged that the Firm failed to provide certain information to the Dutch Authority and keep adequate books and records. On April 26, 2018, the District Court in Amsterdam issued a decision dismissing the Dutch Authority's claims. On June 4, 2018, the Dutch Authority filed an appeal before the Court of Appeal in Amsterdam in matters re-styled *Case number 18/00318* and *Case number 18/*00319. A hearing of the Dutch Authority's appeal has been scheduled for June 26, 2019.

On October 5, 2017, various institutional investors filed a claim against the Firm and another bank in a matter now styled *Case number B-803-18 (previously BS 99-6998/2017),* in the City Court of Copenhagen, Denmark concerning their roles as underwriters of the initial public offering ("IPO") in March 2014 of the Danish company OW Bunker A/S. The claim seeks damages of DKK 534,270,456 (approximately $82 million) plus interest in respect of alleged losses arising from investing in shares in OW Bunker, which entered into bankruptcy in November 2014. Separately, on November 29, 2017, another group of institutional investors joined the Firm and another bank as defendants to pending proceedings in the High Court of Eastern Denmark against various other parties involved in the IPO in a matter styled *Case number B-2073-16*. The claim brought against the Firm and the other bank has been given its own *Case number B-2564-17*. The investors claim damages of DKK 767,235,885 (approximately $118 million) plus interest, from the Firm and the other bank on a joint and several basis with the Defendants to these proceedings. Both claims are based on alleged prospectus liability; the second claim also alleges professional liability of banks acting as financial intermediaries. On June 8, 2018, the City Court of Copenhagen, Denmark ordered that the matters now styled *Case number B-803-18, B-2073-16* and *Case number B-2564-17* be heard together before the High Court of Eastern Denmark. On June 29, 2018, the Firm filed its defense to the matter now styled *Case number B-2564-17*. On February 4, 2019, the Firm filed its defense to the matter now styled *Case number B-803-18*.

The following matters were terminated during or following the quarter ended December 31, 2018:

On October 20, 2014, a purported class action complaint was filed against the Firm and other defendants styled *Genesee County Employees' Retirement System v. Bank of America Corporation et al.* in the SDNY. The action was later consolidated with four similar actions in SDNY under the lead case styled *Alaska Electrical Pension Fund v. Bank of America Corporation et al.* A consolidated amended complaint was filed on February 2, 2015 asserting claims for alleged violations of the Sherman Act, breach of contract, breach of the implied covenant of good faith and fair dealing, unjust enrichment, and tortious interference with contract. The consolidated amended complaint alleges, among other things, that the defendants engaged in antitrust violations with regards to the process of setting ISDAfix, a financial benchmark and seeks treble damages, injunctive relief, attorneys' fees and other relief. On June 22, 2018, the parties entered into an agreement to settle the litigation. On November 13, 2018, the court entered a final judgment and order granting final approval of the settlement and dismissing the action as to the Firm and the other remaining defendants.

On December 14, 2012, Royal Park Investments SA/NV filed a complaint against the Firm, certain affiliates, and other defendants in the Supreme Court of NY, styled *Royal Park Investments SA/NV v. Merrill Lynch et al.* On October 24, 2013, plaintiff filed a new complaint against the Firm in the Supreme Court of NY, styled *Royal Park Investments SA/NV v. Morgan Stanley et al.*, alleging that defendants made material misrepresentations and omissions in the sale to plaintiff of certain mortgage pass-through certificates backed by securitization trusts containing residential mortgage loans. The total amount of certificates allegedly sponsored, underwritten and/or sold by the Firm to plaintiff was approximately $597 million. The complaint raises common law claims of fraud, fraudulent inducement, negligent misrepresentation, and aiding and abetting fraud and seeks, among other things, compensatory and punitive damages. The plaintiff filed an amended complaint on December 1, 2015. On April 12, 2017, the Supreme Court of the State of NY granted the Firm's motion to dismiss the amended complaint. On October 9, 2018, the Appellate Division, First Department affirmed the lower court's order dismissing the amended complaint. On January 15, 2019, plaintiff's motion for leave to appeal to the New York Court of Appeals was denied.

Mine Safety Disclosures

Not applicable.

Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

Morgan Stanley's common stock trades under the symbol "MS" on the New York Stock Exchange. As of February 15, 2019, the Firm had 56,561 holders of record; however, the Firm believes the number of beneficial owners of the Firm's common stock exceeds this number.

The table below sets forth the information with respect to purchases made by or on behalf of the Firm of its common stock during the fourth quarter of the year ended December 31, 2018.

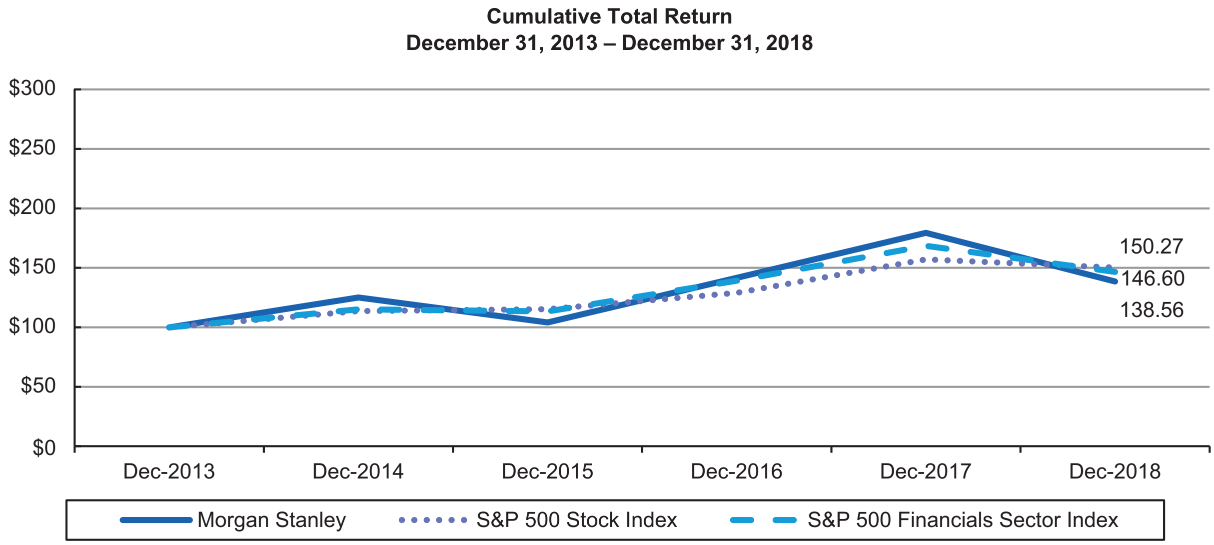
Issuer Purchases of Equity Securities

$ in millions, except per share data	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs[1]	Approximate Dollar Value of Shares That May Yet Be Purchased under the Plans or Programs
Month #1 (October 1, 2018-October 31, 2018)				
Share Repurchase Program[2]	**6,132,280**	**$ 45.41**	**6,132,280**	**$ 3,262**
Employee transactions[3]	**42,464**	**$ 46.30**	**—**	**—**
Month #2 (November 1, 2018-November 30, 2018)				
Share Repurchase Program[2]	**8,382,000**	**$ 44.81**	**8,382,000**	**$ 2,886**
Employee transactions[3]	**10,692**	**$ 45.37**	**—**	**—**
Month #3 (December 1, 2018-December 31, 2018)				
Share Repurchase Program[2]	**12,442,923**	**$ 42.27**	**12,442,923**	**$ 2,360**
Employee transactions[3]	**105,496**	**$ 41.76**	**—**	**—**
Quarter ended December 31, 2018				
Share Repurchase Program[2]	**26,957,203**	**$ 43.77**	**26,957,203**	**$ 2,360**
Employee transactions[3]	**158,652**	**$ 43.22**	**—**	**—**

1. Share purchases under publicly announced programs are made pursuant to open-market purchases, Rule 10b5-1 plans or privately negotiated transactions (including with employee benefit plans) as market conditions warrant and at prices the Firm deems appropriate and may be suspended at any time. On April 18, 2018, the Firm entered into a sales plan with Mitsubishi UFJ Financial Group, Inc. ("MUFG") and Morgan Stanley & Co. LLC ("MS&Co.") whereby MUFG will sell shares of the Firm's common stock to the Firm, through the Firm's agent MS&Co., as part of the Company's share repurchase program (as defined below). The sales plan is only intended to maintain MUFG's ownership percentage below 24.9% in order to comply with MUFG's passivity commitments to the Board of Governors of the Federal Reserve System (the "Federal Reserve") and will have no impact on the strategic alliance between MUFG and the Firm, including the joint ventures in Japan.
2. The Firm's Board of Directors has authorized the repurchase of the Firm's outstanding stock under a share repurchase program (the "Share Repurchase Program"). The Share Repurchase Program is a program for capital management purposes that considers, among other things, business segment capital needs, as well as equity-based compensation and benefit plan requirements. The Share Repurchase Program has no set expiration or termination date. Share repurchases by the Firm are subject to regulatory approval. On June 28, 2018, the Federal Reserve published summary results of CCAR and the Firm received a conditional non-objection to its 2018 Capital Plan, where the only condition was that the Firm's capital distributions not exceed the greater of the actual distributions it made over the previous four calendar quarters or the annualized average of actual distributions over the previous eight calendar quarters. As a result, the Firm's 2018 Capital Plan includes a share repurchase of up to $4.7 billion of its outstanding common stock during the period beginning July 1, 2018 through June 30, 2019. During the quarter ended December 31, 2018, the Firm repurchased approximately $1.2 billion of the Firm's outstanding common stock as part of its Share Repurchase Program. For further information, see "Liquidity and Capital Resources—Capital Management."
3. Includes shares acquired by the Firm in satisfaction of the tax withholding obligations on stock-based awards granted under the Firm's stock-based compensation plans.

Stock Performance Graph

The following graph compares the cumulative total shareholder return (rounded to the nearest whole dollar) of the Firm's common stock, the S&P 500 Stock Index and the S&P 500 Financials Sector Index for the last five years. The graph assumes a $100 investment at the closing price on December 31, 2013 and reinvestment of dividends on the respective dividend payment dates without commissions. This graph does not forecast future performance of the Firm's common stock.



	At December 31,					
	2013	2014	2015	2016	2017	**2018**
Morgan Stanley	$100.00	$125.09	$104.13	$141.68	$179.40	**138.56**
S&P 500 Stock Index	100.00	113.68	115.24	129.02	157.17	**150.27**
S&P 500 Financials Sector Index	100.00	115.18	113.38	139.17	168.59	**146.60**

Directors, Executive Officers and Corporate Governance

Information relating to the Firm's directors and nominees in the Firm's definitive proxy statement for its 2019 annual meeting of shareholders ("Morgan Stanley's Proxy Statement") is incorporated by reference herein.

Information relating to the Firm's executive officers is contained in the "Business" section of this report under "Executive Officers of Morgan Stanley."

Morgan Stanley's Code of Ethics and Business Conduct applies to all directors, officers and employees, including its Chief Executive Officer, Chief Financial Officer and Deputy Chief Financial Officer. You can find the Code of Ethics and Business Conduct on the Internet site, *www.morganstanley.com/about-us-governance/ethics.html*. The Firm will post any amendments to the Code of Ethics and Business Conduct, and any waivers that are required to be disclosed by the rules of either the U.S. Securities and Exchange Commission or the New York Stock Exchange LLC, on the Internet site.

Executive Compensation

Information relating to director and executive officer compensation in Morgan Stanley's Proxy Statement is incorporated by reference herein.

Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

Equity Compensation Plan Information

The following table provides information about outstanding awards and shares of common stock available for future awards under all of Morgan Stanley's equity compensation plans. Morgan Stanley has not made any grants of common stock outside of its equity compensation plans.

	At December 31, 2018		
	(a)	(b)	(c)
plan category	Number of securities to be issued upon exercise of outstanding options, warrants and rights[1]	Weighted-average exercise price of outstanding options, warrants and rights	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a))
Equity compensation plans approved by security holders	**79,940,303**	**$ —**	**138,179,204** [2]
Equity compensation plans not approved by security holders	—	—	—
Total	**79,940,303**	**$ —**	**138,179,204**

1. Includes outstanding restricted stock unit and performance stock unit awards. The number of outstanding performance stock unit awards is based on the target number of units granted to senior executives.
2. Includes the following:
   (a) 39,182,870 shares available under the Employee Stock Purchase Plan ("ESPP"). Pursuant to this plan, which is qualified under Section 423 of the Internal Revenue Code, eligible employees were permitted to purchase shares of common stock at a discount to market price through regular payroll deduction. The Compensation, Management Development and Succession Committee of the Board ("CMDS Committee") approved the discontinuation of the ESPP, effective June 1, 2009, such that no further contributions to the plan will be permitted following such date, until such time as the CMDS Committee determines to recommence contributions under the plan.
   (b) 82,686,133 shares available under the Equity Incentive Compensation Plan. Awards may consist of stock options, stock appreciation rights, restricted stock, restricted stock units to be settled by the delivery of shares of common stock (or the value thereof), performance-based units, other awards that are valued by reference to or otherwise based on the fair market value of common stock, and other equity-based or equity-related awards approved by the CMDS Committee.
   (c) 14,869,924 shares available under the Employee Equity Accumulation Plan, which includes 733,757 shares available for awards of restricted stock and restricted stock units. Awards may consist of stock options, stock appreciation rights, restricted stock, restricted stock units to be settled by the delivery of shares of common stock (or the value thereof), other awards that are valued by reference to or otherwise based on the fair market value of common stock, and other equity-based or equity-related awards approved by the CMDS Committee.
   (d) 355,243 shares available under the Tax Deferred Equity Participation Plan. Awards consist of restricted stock units, which are settled by the delivery of shares of common stock.
   (e) 1,085,034 shares available under the Directors' Equity Capital Accumulation Plan. This plan provides for periodic awards of shares of common stock and stock units to non-employee directors and also allows non-employee directors to defer the cash fees they earn for services as a director in the form of stock units.

Other information relating to security ownership of certain beneficial owners and management is set forth under the caption "Beneficial Ownership of Company Common Stock" in Morgan Stanley's Proxy Statement and such information is incorporated by reference herein.

Certain Relationships and Related Transactions and Director Independence

Information regarding certain relationships and related transactions in Morgan Stanley's Proxy Statement is incorporated by reference herein.

Information regarding director independence in Morgan Stanley's Proxy Statement is incorporated by reference herein.

Principal Accountant Fees and Services

Information regarding principal accountant fees and services in Morgan Stanley's Proxy Statement is incorporated by reference herein.

Exhibits and Financial Statement Schedules

Documents filed as part of this report

- The financial statements required to be filed in this Annual Report on Form 10-K are included in the section titled "Financial Statements and Supplementary Data."

- An exhibit index has been filed as part of this report beginning on page E-1 and is incorporated by reference herein.

Form 10-K Summary

None.

SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

EXHIBITS TO FORM 10-K

For the year ended December 31, 2018
Commission File No. 1-11758

Morgan Stanley

Exhibit Index

Certain of the following exhibits, as indicated parenthetically, were previously filed as exhibits to registration statements filed by Morgan Stanley or its predecessor companies under the Securities Act or to reports or registration statements filed by Morgan Stanley or its predecessor companies under the Exchange Act and are hereby incorporated by reference to such statements or reports. Morgan Stanley's Exchange Act file number is 1-11758. The Exchange Act file number of Morgan Stanley Group Inc., a predecessor company ("MSG"), was 1-9085.[1]

Exhibit No.	Description
3.1	Amended and Restated Certificate of Incorporation of Morgan Stanley, as amended to date (Exhibit 3.1 to Morgan Stanley's Annual Report on Form 10-K for the year ended December 31, 2017).
3.2	Amended and Restated Bylaws of Morgan Stanley, as amended to date (Exhibit 3.1 to Morgan Stanley's Current Report on Form 8-K dated October 29, 2015).
4.1	Amended and Restated Senior Indenture dated as of May 1, 1999 between Morgan Stanley and The Bank of New York, as trustee (Exhibit 4-e to Morgan Stanley's Registration Statement on Form S-3/A (No. 333-75289) as amended by Fourth Supplemental Senior Indenture dated as of October 8, 2007 (Exhibit 4.3 to Morgan Stanley's Annual Report on Form 10-K for the fiscal year ended November 30, 2007).
4.2	Senior Indenture dated as of November 1, 2004 between Morgan Stanley and The Bank of New York, as trustee (Exhibit 4-f to Morgan Stanley's Registration Statement on Form S-3/A (No. 333-117752), as amended by First Supplemental Senior Indenture dated as of September 4, 2007 (Exhibit 4.5 to Morgan Stanley's Annual Report on Form 10-K for the fiscal year ended November 30, 2007), Second Supplemental Senior Indenture dated as of January 4, 2008 (Exhibit 4.1 to Morgan Stanley's Current Report on Form 8-K dated January 4, 2008), Third Supplemental Senior Indenture dated as of September 10, 2008 (Exhibit 4 to Morgan Stanley's Quarterly Report on Form 10-Q for the quarter ended August 31, 2008), Fourth Supplemental Senior Indenture dated as of December 1, 2008 (Exhibit 4.1 to Morgan Stanley's Current Report on Form 8-K dated December 1, 2008), Fifth Supplemental Senior Indenture dated as of April 1, 2009 (Exhibit 4 to Morgan Stanley's Quarterly Report on Form 10-Q for the quarter ended March 31, 2009), Sixth Supplemental Senior Indenture dated as of September 16, 2011 (Exhibit 4.1 to Morgan Stanley's Quarterly Report on Form 10-Q for the quarter ended September 30, 2011), Seventh Supplemental Senior Indenture dated as of November 21, 2011 (Exhibit 4.4 to Morgan Stanley's Annual Report on Form 10-K for the year ended December 31, 2011), Eighth Supplemental Senior Indenture dated as of May 4, 2012 (Exhibit 4.1 to Morgan Stanley's Quarterly Report on Form 10-Q for the quarter ended June 30, 2012), Ninth Supplemental Senior Indenture dated as of March 10, 2014 (Exhibit 4.1 to Morgan Stanley's Quarterly Report on Form 10-Q for the quarter ended March 31, 2014) and Tenth Supplemental Senior Indenture dated as of January 11, 2017 (Exhibit 4.1 to Morgan Stanley's Current Report on Form 8-K dated January 11, 2017).
4.3	The Unit Agreement Without Holders' Obligations, dated as of August 29, 2008, between Morgan Stanley and The Bank of New York Mellon, as Unit Agent, as Trustee and Paying Agent under the Senior Indenture referred to therein and as Warrant Agent under the Warrant Agreement referred to therein (Exhibit 4.1 to Morgan Stanley's Current Report on Form 8-K dated August 29, 2008).
4.4	Subordinated Indenture dated as of October 1, 2004 between Morgan Stanley and The Bank of New York, as trustee (Exhibit 4-g to Morgan Stanley's Registration Statement on Form S-3/A (No. 333-117752)).
4.5	Junior Subordinated Indenture dated as of October 12, 2006 between Morgan Stanley and The Bank of New York, as trustee (Exhibit 4.1 to Morgan Stanley's Current Report on Form 8-K dated October 12, 2006).
4.6	Deposit Agreement dated as of July 6, 2006 among Morgan Stanley, JPMorgan Chase Bank, N.A. and the holders from time to time of the depositary receipts described therein (Exhibit 4.3 to Morgan Stanley's Quarterly Report on Form 10-Q for the quarter ended May 31, 2006).

(1) For purposes of this Exhibit Index, references to "The Bank of New York" mean in some instances the entity successor to JPMorgan Chase Bank, N.A. or J.P. Morgan Trust Company, National Association; references to "JPMorgan Chase Bank, N.A." mean the entity formerly known as The Chase Manhattan Bank, in some instances as the successor to Chemical Bank; references to "J.P. Morgan Trust Company, N.A." mean the entity formerly known as Bank One Trust Company, N.A., as successor to The First National Bank of Chicago.

Exhibit No.	Description
4.7	Form of Deposit Agreement among Morgan Stanley, JPMorgan Chase Bank, N.A. and the holders from time to time of the depositary receipts representing interests in the Series A Preferred Stock described therein (Exhibit 2.4 to Morgan Stanley's Registration Statement on Form 8-A dated July 5, 2006).
4.8	Depositary Receipt for Depositary Shares, representing Floating Rate Non-Cumulative Preferred Stock, Series A (included in Exhibit 4.7 hereto).
4.9	Form of Deposit Agreement among Morgan Stanley, The Bank of New York Mellon and the holders from time to time of the depositary receipts representing interests in the Series E Preferred Stock described therein (Exhibit 2.6 to Morgan Stanley's Registration Statement on Form 8-A dated September 27, 2013).
4.10	Depositary Receipt for Depositary Shares, representing Fixed-to-Floating Rate Non-Cumulative Preferred Stock, Series E (included in Exhibit 4.9 hereto).
4.11	Form of Deposit Agreement among Morgan Stanley, The Bank of New York Mellon and the holders from time to time of the depositary receipts representing interests in the Series F Preferred stock described therein (Exhibit 2.4 to Morgan Stanley's Registration Statement on Form 8-A dated December 9, 2013).
4.12	Depositary Receipt for Depositary Shares, representing Fixed-to-Floating Rate Non-Cumulative Preferred Stock, Series F (included in Exhibit 4.11 hereto).
4.13	Form of Deposit Agreement among Morgan Stanley, The Bank of New York Mellon and the holders from time to time of the depositary receipts representing interests in the Series G Preferred stock described therein (Exhibit 2.4 to Morgan Stanley's Registration Statement on Form 8-A dated April 28, 2014).
4.14	Depositary Receipt for Depositary Shares, representing 6.625% Non-Cumulative Preferred Stock, Series G (included in Exhibit 4.13 hereto).
4.15	Form of Deposit Agreement among Morgan Stanley, The Bank of New York Mellon and the holders from time to time of the depositary receipts representing interests in the Series H Preferred stock described therein (Exhibit 4.6 to Morgan Stanley's Current Report on Form 8-K dated April 29, 2014).
4.16	Depositary Receipt for Depositary Shares, representing Fixed-to-Floating Rate Non-Cumulative Preferred Stock, Series H (included in Exhibit 4.15 hereto).
4.17	Form of Deposit Agreement among Morgan Stanley, The Bank of New York Mellon and the holders from time to time of the depositary receipts representing interests in the Series I Preferred stock described therein (Exhibit 2.4 to Morgan Stanley's Registration Statement on Form 8-A dated September 17, 2014).
4.18	Depositary Receipt for Depositary Shares, representing Fixed-to-Floating Rate Non-Cumulative Preferred Stock, Series I (included in Exhibit 4.17 hereto).
4.19	Form of Deposit Agreement among Morgan Stanley, The Bank of New York Mellon and the holders from time to time of the depositary receipts representing interests in the Series J Preferred Stock described therein (Exhibit 4.3 to Morgan Stanley's Current Report on Form 8-K dated March 18, 2015).
4.20	Depositary Receipt for Depositary Shares, representing Fixed-to-Floating Rate Non-Cumulative Preferred Stock, Series J (included in Exhibit 4.19 hereto).
4.21	Form of Deposit Agreement among Morgan Stanley, The Bank of New York Mellon and the holders from time to time of the depositary receipts representing interests in the Series K Preferred Stock described therein (Exhibit 2.4 to Morgan Stanley's Current Report on Form 8-A dated January 30, 2017).
4.22	Depositary Receipt for Depositary Shares, representing Fixed-to-Floating Rate Non-Cumulative Preferred Stock, Series K (included in Exhibit 4.21 hereto).
10.1	Amended and Restated Trust Agreement dated as of January 1, 2018 by and between Morgan Stanley and State Street Bank and Trust Company (Exhibit 10.1 to Morgan Stanley's Quarterly Report on Form 10-Q for the quarter ended March 31, 2018).

Exhibit No.	Description
10.2	Amended and Restated Investor Agreement dated as of June 30, 2011 by and between Morgan Stanley and Mitsubishi UFJ Financial Group, Inc. (Exhibit 10.1 to Morgan Stanley's Current Report on Form 8-K dated June 30, 2011), as amended by Third Amendment, dated October 3, 2013 (Exhibit 10.1 to Morgan Stanley's Quarterly Report on Form 10-Q for the quarter ended September 30, 2013) and Fourth Amendment, dated April 6, 2016 (Exhibit 10.1 to Morgan Stanley's Quarterly Report on Form 10-Q for the quarter ended March 31, 2016).
10.3†	Morgan Stanley 401(k) Plan, amended and restated as of January 1, 2013 (Exhibit 10.6 to Morgan Stanley Annual Report on Form 10-K for the year ended December 31, 2012), as amended by Amendment (Exhibit 10.5 to Morgan Stanley's Annual Report on Form 10-K for the year ended December 31, 2013), Amendment (Exhibit 10.6 to Morgan Stanley's Annual Report on Form 10-K for the year ended December 31, 2013), Amendment (Exhibit 10.5 to Morgan Stanley's Annual Report on Form 10-K for the year ended December 31, 2014), Amendment (Exhibit 10.5 to Morgan Stanley's Annual Report on Form 10-K for the year ended December 31, 2015), Amendment (Exhibit 10.4 to Morgan Stanley's Annual Report on Form 10-K for the year ended December 31, 2016), Amendment (Exhibit 10.4 to Morgan Stanley's Annual Report on Form 10-K for the year ended December 31, 2017), and Amendment (Exhibit 10.5 to Morgan Stanley's Annual Report on Form 10-K for the year ended December 31, 2017).
10.4†*	Amendment to Morgan Stanley 401(k) Plan, dated as of December 11, 2018.
10.5†	Tax Deferred Equity Participation Plan as amended and restated as of November 26, 2007 (Exhibit 10.9 to Morgan Stanley's Annual Report on Form 10-K for the fiscal year ended November 30, 2007).
10.6†*	Directors' Equity Capital Accumulation Plan as amended and restated as of November 1, 2018.
10.7†	Employees' Equity Accumulation Plan as amended and restated as of November 26, 2007 (Exhibit 10.12 to Morgan Stanley's Annual Report on Form 10-K for the fiscal year ended November 30, 2007).
10.8†	Employee Stock Purchase Plan as amended and restated as of February 1, 2009 (Exhibit 10.20 to Morgan Stanley's Annual Report on Form 10-K for the fiscal year ended November 30, 2008).
10.9†	Morgan Stanley Supplemental Executive Retirement and Excess Plan, amended and restated effective December 31, 2008 (Exhibit 10.2 to Morgan Stanley's Quarterly Report on Form 10-Q for the quarter ended March 31, 2009) as amended by Amendment (Exhibit 10.5 to Morgan Stanley's Quarterly Report on Form 10-Q for the quarter ended June 30, 2009), Amendment (Exhibit 10.19 to Morgan Stanley's Annual Report on Form 10-K for the year ended December 31, 2010), Amendment (Exhibit 10.3 to Morgan Stanley's Quarterly Report on Form 10-Q for the quarter ended June 30, 2011) and Amendment (Exhibit 10.1 to Morgan Stanley's Quarterly Report on Form 10-Q for the quarter ended September 30, 2014).
10.10†	1995 Equity Incentive Compensation Plan (Annex A to MSG's Proxy Statement for its 1996 Annual Meeting of Stockholders) as amended by Amendment (Exhibit 10.39 to Morgan Stanley's Annual Report on Form 10-K for the fiscal year ended November 30, 2000), Amendment (Exhibit 10.5 to Morgan Stanley's Quarterly Report on Form 10-Q for the quarter ended August 31, 2005), Amendment (Exhibit 10.3 to Morgan Stanley's Quarterly Report on Form 10-Q for the quarter ended February 28, 2006), Amendment (Exhibit 10.24 to Morgan Stanley's Annual Report on Form 10-K for the fiscal year ended November 30, 2006) and Amendment (Exhibit 10.22 to Morgan Stanley's Annual Report on Form 10-K for the fiscal year ended November 30, 2007).
10.11†	Form of Deferred Compensation Agreement under the Pre-Tax Incentive Program 2 (Exhibit 10.12 to MSG's Annual Report for the fiscal year ended November 30, 1996).
10.12†	Key Employee Private Equity Recognition Plan (Exhibit 10.43 to Morgan Stanley's Annual Report on Form 10-K for the fiscal year ended November 30, 2000).
10.13†	Morgan Stanley UK Share Ownership Plan (Exhibit 4.1 to Morgan Stanley's Registration Statement on Form S-8 (No. 333-146954)).

Exhibit No.	Description
10.14†	Supplementary Deed of Participation for the Morgan Stanley UK Share Ownership Plan, dated as of November 5, 2009 (Exhibit 10.36 to Morgan Stanley's Annual Report on Form 10-K for the year ended December 31, 2009).
10.15†	Aircraft Time Sharing Agreement, dated as of January 1, 2010, by and between Corporate Services Support Corp. and James P. Gorman (Exhibit 10.1 to Morgan Stanley's Quarterly Report on Form 10-Q for the quarter ended March 31, 2010).
10.16†	Agreement between Morgan Stanley and James P. Gorman, dated August 16, 2005, and amendment dated December 17, 2008 (Exhibit 10.2 to Morgan Stanley's Quarterly Report on Form 10-Q for the quarter ended March 31, 2010), as amended by Amendment (Exhibit 10.25 to Morgan Stanley's Annual Report on Form 10-K for the year ended December 31, 2013).
10.17†	Form of Restrictive Covenant Agreement (Exhibit 10 to Morgan Stanley's Current Report on Form 8-K dated November 22, 2005).
10.18†	Equity Incentive Compensation Plan, as amended and restated as of March 30, 2017 (Exhibit 10.1 to Morgan Stanley's Current Report on Form 8-K dated May 22, 2017).
10.19†	Morgan Stanley 2006 Notional Leveraged Co-Investment Plan, as amended and restated as of November 28, 2008 (Exhibit 10.47 to Morgan Stanley's Annual Report on Form 10-K for the fiscal year ended November 30, 2008).
10.20†	Form of Award Certificate under the 2006 Notional Leveraged Co-Investment Plan (Exhibit 10.7 to Morgan Stanley's Quarterly Report on Form 10-Q for the quarter ended February 29, 2008).
10.21†	Morgan Stanley 2007 Notional Leveraged Co-Investment Plan, amended as of June 4, 2009 (Exhibit 10.6 to Morgan Stanley's Quarterly Report on Form 10-Q for the quarter ended June 30, 2009).
10.22†	Form of Award Certificate under the 2007 Notional Leveraged Co-Investment Plan for Certain Management Committee Members (Exhibit 10.8 to Morgan Stanley's Quarterly Report on Form 10-Q for the quarter ended February 29, 2008).
10.23†	Morgan Stanley Compensation Incentive Plan (Exhibit 10.54 to Morgan Stanley's Annual Report on Form 10-K for the fiscal year ended November 30, 2008).
10.24†*.	Morgan Stanley Schedule of Non-Employee Directors Annual Compensation, effective as of November 1, 2018.
10.25†	Morgan Stanley UK Limited Alternative Retirement Plan, dated as of October 8, 2009 (Exhibit 10.2 to Morgan Stanley's Quarterly Report on Form 10-Q for the quarter ended March 31, 2013).
10.26†	Agreement between Morgan Stanley and Colm Kelleher, dated January 5, 2015 (Exhibit 10.1 to Morgan Stanley's Quarterly Report on Form 10-Q for the quarter ended March 31, 2015).
10.27†	Description of Operating Committee Medical Coverage (Exhibit 10.2 to Morgan Stanley's Quarterly Report on Form 10-Q for the quarter ended March 31, 2015).
10.28†	Form of Award Certificate for Discretionary Retention Awards of Stock Units. (Exhibit 10.33 to Morgan Stanley's Annual Report on Form 10-K for the year ended December 31, 2017).
10.29†	Form of Award Certificate for Discretionary Retention Awards under the Morgan Stanley Compensation Incentive Plan. (Exhibit 10.34 to Morgan Stanley's Annual Report on Form 10-K for the year ended December 31, 2017).
10.30†*	Form of Award Certificate for Long-Term Incentive Program Awards.
10.31†	Memorandum to Colm Kelleher Regarding Relocation to New York, dated February 25, 2016 (Exhibit 10.2 to Morgan Stanley's Quarterly Report on Form 10-Q for the quarter ended March 31, 2016).

Exhibit No.	Description
21*	Subsidiaries of Morgan Stanley.
23.1*	Consent of Deloitte & Touche LLP.
24	Powers of Attorney (included on signature page).
31.1*	Rule 13a-14(a) Certification of Chief Executive Officer.
31.2*	Rule 13a-14(a) Certification of Chief Financial Officer.
32.1**	Section 1350 Certification of Chief Executive Officer.
32.2**	Section 1350 Certification of Chief Financial Officer.
101	Interactive data files pursuant to Rule 405 of Regulation S-T: (i) the Consolidated Income Statements—Twelve Months Ended December 31, 2018, December 31, 2017, and December 31, 2016, (ii) the Consolidated Comprehensive Income Statements —Twelve Months Ended December 31, 2018, December 31, 2017 and December 31, 2016, (iii) the Consolidated Balance Sheets—December 31, 2018 and December 31, 2017, (iv) the Consolidated Statements of Changes in Total Equity—Twelve Months Ended December 31, 2018, December 31, 2017 and December 31, 2016, (v) the Consolidated Cash Flow Statements—Twelve Months Ended December 31, 2018, December 31, 2017 and December 31, 2016, and (vi) Notes to Consolidated Financial Statements.

* Filed herewith.

** Furnished herewith.

† Management contract or compensatory plan or arrangement required to be filed as an exhibit to this Form 10-K pursuant to Item 15(b).

Note: Other instruments defining the rights of holders of long-term debt securities of Morgan Stanley and its subsidiaries are omitted pursuant to Section (b)(4)(iii) of Item 601 of Regulation S-K. Morgan Stanley hereby agrees to furnish copies of these instruments to the U.S. Securities and Exchange Commission upon request.

Signatures

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized, on February 26, 2019.

MORGAN STANLEY

(REGISTRANT)

By: /s/ JAMES P. GORMAN

(James P. Gorman)
Chairman of the Board and Chief Executive Officer

POWER OF ATTORNEY

We, the undersigned, hereby severally constitute Jonathan Pruzan, Eric F. Grossman and Martin M. Cohen, and each of them singly, our true and lawful attorneys with full power to them and each of them to sign for us, and in our names in the capacities indicated below, any and all amendments to the Annual Report on Form 10-K filed with the Securities and Exchange Commission, hereby ratifying and confirming our signatures as they may be signed by our said attorneys to any and all amendments to said Annual Report on Form 10-K.

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the Registrant and in the capacities indicated on the 26th day of February, 2019.

Signature	Title
/s/ JAMES P. GORMAN **(James P. Gorman)**	Chairman of the Board and Chief Executive Officer (Principal Executive Officer)
/s/ JONATHAN PRUZAN **(Jonathan Pruzan)**	Executive Vice President and Chief Financial Officer (Principal Financial Officer)
/s/ PAUL C. WIRTH **(Paul C. Wirth)**	Deputy Chief Financial Officer (Principal Accounting Officer)
/s/ ELIZABETH CORLEY **(Elizabeth Corley)**	Director
/s/ ALISTAIR DARLING **(Alistair Darling)**	Director
/s/ THOMAS H. GLOCER **(Thomas H. Glocer)**	Director
/s/ ROBERT H. HERZ **(Robert H. Herz)**	Director
/s/ NOBUYUKI HIRANO **(Nobuyuki Hirano)**	Director
/s/ JAMI MISCIK **(Jami Miscik)**	Director
/s/ DENNIS M. NALLY **(Dennis M. Nally)**	Director

Signature	Title
/s/ Hutham S. Olayan **(Hutham S. Olayan)**	Director
/s/ Mary L. Schapiro **(Mary L. Schapiro)**	Director
/s/ Ryosuke Tamakoshi **(Ryosuke Tamakoshi)**	Director
/s/ Perry M. Traquina **(Perry M. Traquina)**	Director
/s/ Rayford Wilkins, Jr. **(Rayford Wilkins, Jr.)**	Director