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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, 2019

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	Trading Symbol(s)	Name of exchange on which registered
Common Stock, $0.01 par value	MS	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	MS/PA	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	MS/PE	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	MS/PF	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	MS/PI	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	MS/PK	New York Stock Exchange
Depositary Shares, each representing 1/1,000th interest in a share of 4.875% Non-Cumulative Preferred Stock, Series L, $0.01 par value	MS/PL	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)	MS/26C	New York Stock Exchange
Market Vectors ETNs due March 31, 2020 (two issuances)	URR/DDR	NYSE Arca, Inc.
Market Vectors ETNs due April 30, 2020 (two issuances)	CNY/INR	NYSE Arca, Inc.
Morgan Stanley Cushing® MLP High Income Index ETNs due March 21, 2031	MLPY	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 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, 2019, the aggregate market value of the common stock of Registrant held by non-affiliates of Registrant was approximately $69,733,657,018. This calculation does not reflect a determination that persons are affiliates for any other purposes.

As of January 31, 2020, there were 1,599,276,515 shares of Registrant's common stock, $0.01 par value, outstanding.

Documents Incorporated by Reference: Portions of Registrant's definitive proxy statement for its 2020 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, 2019

Morgan Stanley

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 “Management’s Discussion and Analysis of Financial Condition and Results of Operations”, “Quantitative and Qualitative Disclosures about Risk” and “Legal Proceedings” 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 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 non-objections to our capital plans by our banking regulators;
- the impact of current, pending and future legislation or changes thereto, regulation (including capital, leverage, funding, liquidity and recovery and resolution requirements) and our ability to address such requirements;
- uncertainty concerning fiscal or monetary policies established by central banks and financial regulators, government shutdowns, debt ceilings or funding;
- changes to global trade policies, tariffs, interest rates, reforms of LIBOR and other interest rate benchmarks;
- legal and regulatory actions, including litigation and enforcement, in the U.S. and worldwide;
- changes in tax laws and regulations globally;
- the effectiveness of our risk management processes;
- our ability to effectively respond to an economic downturn, or other market disruptions;
- the effect of social, economic and political conditions and geopolitical events, including the U.K.’s withdrawal from the E.U. ("Brexit"), and sovereign risk;
- 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 initiatives, and costs related thereto, including with respect to the operational or technological integration related to such innovative and strategic initiatives;
- the performance and results of our acquisitions, divestitures, joint ventures, strategic alliances, or other strategic arrangements and related integrations;
- investor, consumer and business sentiment and confidence in the financial markets;
- our reputation and the general perception of the financial services industry;
- climate-related incidents, pandemics and acts of war or terrorism; and
- other risks and uncertainties detailed under “Business—Competition”, “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.

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Available Information

We file annual, quarterly and current reports, proxy statements and other information with the SEC. The SEC maintains a website, *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 website.

Our website 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 website, 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* and our sustainability initiatives at *www.morganstanley.com/about-us/sustainability-at-morgan-stanley*. Our webpages include:

- 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;
- Environmental and Social Policies; and
- Sustainability Report.

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 website. 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 website 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, 2019, we had 60,431 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. See the "Glossary of Common Terms and Acronyms" for the definition of certain terms and acronyms used throughout the 2019 Form 10-K.

Financial information concerning us, our business segments and geographic regions for each of the years ended December 31, 2019, December 31, 2018 and December 31, 2017 is included 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 a number of factors, including our reputation, the quality and consistency of our long-term investment performance, innovation, execution and relative pricing. 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, including through the internet. In addition, restrictive laws and regulations applicable to certain financial services institutions, 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

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 to customers.

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. We expect corporate clients to continue to request that we provide loans or lending commitments in connection with certain investment banking activities.

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.

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 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, including in the form of commissions or fees.

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. These include legislative and regulatory responses to the financial crisis, both in the U.S. and worldwide, including: the Dodd-Frank Wall Street Reform and Consumer Protection Act ("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 recovery and resolution regimes in the U.S. and other jurisdictions. Some areas of post-financial crisis regulation are still subject to final rulemaking, transition periods, or revisions.

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. 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 authority to examine, prescribe regulations and take action with respect to all of our subsidiaries. In particular, we are 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, as defined in the Volcker Rule, with a number of exemptions and exclusions. The Volcker Rule also requires that deductions be made from a BHC's Tier 1 capital for permissible investments in certain 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. We have brought all of our activities and investments into conformance, subject to a June 2017 approval by the Federal Reserve 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 federal financial regulatory agencies responsible for the Volcker Rule's implementing regulations have finalized revisions to certain elements of those regulations. The changes simplify the application of the Volcker Rule, and focus on proprietary trading and certain requirements imposed in connection with permitted market making, underwriting and risk-mitigating hedging activities. As part of the changes, the deduction for certain covered fund positions held in connection with permitted market-making and underwriting activities is no longer required. These revisions became effective on January 1, 2020. We were permitted to voluntarily comply with the revised regulations, in whole or in part, beginning on that date, with full compliance required by January 1, 2021. These

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revisions simplify elements of our compliance obligations and we do not expect these revisions to have a material impact on the way we conduct business under the current rule.

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").

Regulatory Capital Framework. 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.

Regulated Subsidiaries. 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 still in proposed form, not yet effective 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."

Capital Planning, Stress Tests and Capital Distributions. 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—Liquidity and Capital Resources—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 and funding 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 adopted a framework to impose single-counterparty credit limits ("SCCL") for large banking organizations, for which compliance was required by January

1, 2020. 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.

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, Long-Term Debt and Clean Holding Company Requirements."

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 2019 resolution plan, is an SPOE strategy, which generally contemplates the provision of adequate 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.

Under a final rule issued by the Federal Reserve and the FDIC, we are now required to file resolution plans once every two years, with interim updates required in certain limited circumstances. The rule also allows us to alternate between submitting a full, detailed resolution plan and a streamlined, targeted resolution plan. Our next resolution plan submission is expected to be a targeted resolution plan in 2021. The rule also clarifies the information required to be included in our resolution plan.

Further, we 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.

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 ("IDI"), 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.

In addition, certain financial companies, including BHCs such as the Firm and certain of its 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 and the OCC have established rules that impose contractual requirements on certain qualified financial contracts ("covered QFCs") to which U.S. G-SIBs, including us, and their subsidiaries including our U.S. Bank Subsidiaries, are parties (together, 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, and they 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. The final compliance date was January 1, 2020.

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—Liquidity and Capital Resources—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 and Protection of Client Information

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 and the California Consumer Privacy Act ("CCPA") became effective on January 1, 2020. The GDPR and CCPA impose mandatory privacy and data protection obligations, including providing for individual rights, enhanced governance and accountability requirements and significant fines and litigation risk for noncompliance. In addition, other jurisdictions have adopted or are proposing GDPR or similar standards, such as Australia, Singapore, Japan, Argentina, India, Brazil, Switzerland and the Cayman Islands.

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 CCPA 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.

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"). 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, as defined in the Federal Reserve Act, 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. Derivative, 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, 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 is also a registered investment adviser with the SEC. MSSB’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 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, the SEC has released a package of final rules and interpretations relating to the provision of advice by broker-dealers and investment advisers. The package includes new rules on the standards of conduct and required disclosures for broker-dealers when making securities-related recommendations to retail investors, and a new formal interpretation of the fiduciary duty owed by investment advisers. One of the final rules, entitled “Regulation Best Interest,” requires 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. Another new rule requires that both broker-dealers and investment advisers provide to retail investors a brief summary document containing information about the relationship between the parties (“Form CRS”). The compliance date for Regulation Best Interest and Form CRS is June 30, 2020. Certain states have enacted laws or rules, or are considering laws or rules, subjecting broker-dealers to a fiduciary duty when dealing with retail customers under a variety of circumstances.

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. Regulators continue to focus on research conflicts of interest and may impose additional regulations. See also “Business—Supervision and Regulation—Non-U.S. Regulation” herein.

Regulation of Futures Activities and Certain Commodities Activities. MS&Co., as a futures commission merchant, and MSSB, as an introducing broker, are subject to net capital requirements of, and certain of their activities are regulated by, the CFTC, the NFA, the Joint Audit Committee (including the

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Chicago Mercantile Exchange & Chicago Board of Trade ("CME Group") in its capacity as MS&Co.'s designated self-regulatory organization), and various commodity futures exchanges. MS&Co. and MSSB and certain of their affiliates are registered with the CFTC and are members of the NFA in various capacities. Rules and regulations of the CFTC, NFA, the Joint Audit Committee (including the CME Group) 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, the margining of customer accounts and documentation entered into by futures commission merchants with their customers, 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. The commodity futures, commodity options and swaps industry in the U.S. is subject to regulation under the U.S. Commodity Exchange Act ("CEA"). The CFTC is the U.S. federal agency charged with the administration of the CEA. In addition, the SEC is the U.S. federal agency charged with the regulation of security-based swaps. The rules and regulations of various self-regulatory organizations also govern derivatives.

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 comprehensive regulation of our derivatives businesses, including regulations that impose margin requirements, public and regulatory reporting, central clearing and mandatory trading on regulated exchanges or execution facilities for certain types of Swaps.

CFTC rules require registration of swap dealers, mandatory clearing and execution of interest rate and certain credit default swaps and real-time public reporting and adherence to business conduct standards for all in-scope Swaps. We also anticipate that the CFTC will adopt capital requirements for swap dealers and major swap participants that are not subject to the capital rules of a prudential regulator. We have registered a number of U.S. and non U.S. CFTC swap dealers.

SEC rules govern the registration and regulation of security-based swap dealers. Though compliance with a number of these rules is not expected to be required until 2021, they will trigger numerous obligations for entities that register as security-based swap dealers, including capital, margin and segregation requirements. We anticipate registering one or more entities as a security-based swap dealer.

The specific parameters of some of these requirements for Swaps have been and continue to be developed through CFTC, SEC and bank regulator rulemakings. For example, the rules for variation margin are presently effective, and those for initial margin will continue to phase-in based on activity levels of the swap dealer and the relevant counterparty with the final phase currently expected to occur in September 2021, subject to finalization of various proposed rule makings by the CFTC and bank regulators. 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 a significant number of areas within the global derivatives regulatory framework have been finalized, additional changes are expected. As the derivatives regulatory framework continues to evolve, 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 to our derivatives businesses. Compliance with Swaps-related regulatory capital requirements may also require us to devote more capital to our businesses that engage in swaps. Our Institutional Securities and Wealth Management business segments 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. Morgan Stanley Distribution, Inc., a U.S. broker-dealer subsidiary, 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. 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.

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, business 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, investment advisers or other types of regulated entities under the laws of the jurisdictions in which they operate. Subsidiaries engaged in banking and trust activities and advisory 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 U.K. Financial Conduct Authority ("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 certain of our activities in the Federal Republic of Germany; the European Central Bank supervises certain subsidiaries in our post-Brexit structure; the Financial Services Agency, the Securities and Exchange Surveillance Commission, 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 business in Hong Kong; and the Monetary Authority of Singapore and the Singapore Exchange Limited regulate our business in Singapore; other similar bodies regulate our activities in Ireland, China, Korea, Australia, India and other countries.

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 June 2019, the European Commission published a package of reforms including various risk reduction measures. These include amendments to the Capital Requirements Directive and Regulation providing updates to risk-based capital, liquidity (including introducing a net stable funding ratio), leverage and other prudential standards on a consolidated basis that are consistent with final Basel standards. In addition, the reforms will require certain large, non-E.U. financial groups with two or more financial subsidiaries established in the E.U. to establish an E.U. IHC. The E.U. IHC will be subject to direct supervision and authorization by the European Central Bank or the relevant national E.U. regulator. Further amendments to the E.U. bank recovery and resolution regime under the E.U. Bank Recovery and Resolution Directive ("BRRD") were also published.

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 (under the U.K. version of the BRRD which is expected to be adopted after the Brexit transition period). 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 reducing 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 requirements regarding the central clearing and reporting of derivatives, as well as margin requirements for uncleared derivatives. MiFID II introduced comprehensive and new trading and market infrastructure reforms in the E.U., including new trading venues, enhancements to pre- and post-trading transparency, additional investor protection requirements, and requirements relating to the unbundling of research and execution services among others, and 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.

Information about our Executive Officers

The executive officers of Morgan Stanley and their age and titles as of February 27, 2020 are set forth below. Business experience is provided in accordance with SEC rules.

Jeffrey S. Brodsky (55). 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 (61). 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 (53). 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 (57). 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). Global Head of Market Risk Management at Merrill Lynch (June 2005 to September 2007).

Edward N. Pick (51). Head of Institutional Securities (since July 2018). Global Head of Sales and Trading (October 2015 to July 2018). Head of Global Equities (March 2011 to October 2015). Co-Head of Global Equities (April 2009 to March 2011). Co-Head of Global Capital Markets (July 2008 to April 2009). Co-Head of Global Equity Capital Markets (December 2005 to July 2008).

Jonathan M. Pruzan (51). 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).

Robert P. Rooney (52). Head of Technology, Operations and Firm Resilience (since April 2019). Head of Technology (January 2017 to April 2019). Chief Executive Officer of Morgan Stanley International and Head of Europe, the Middle East and Africa (January 2016 to May 2018). Global Co-Head of Fixed Income Sales and Trading (May 2013 to January 2016). Head of Fixed Income for Europe, the Middle East and Africa and Global Head of Fixed Income Sales (September 2009 to May 2013).

Andrew M. Saperstein (53). Head of Wealth Management (since April 2019). Co-Head of Wealth Management (January 2016 to April 2019). Co-Chief Operating Officer of Institutional Securities (March 2015 to January 2016). Head of Wealth Management Investment Products and Services (June 2012 to March 2015).

Daniel A. Simkowitz (54). 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—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 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.

Substantial market fluctuations could also cause variations in the value of our investments in our funds, 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, underwriting, including block trading, 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—Country Risk.”

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—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.

Our valuations related to, and reserves for losses on, credit exposures rely on complex models, estimates, and subjective judgments about the future. While we believe current valuations and reserves adequately address our perceived levels of risk, future economic conditions that differ from or are more severe than forecast, inaccurate models or assumptions, or external factors such as natural disasters, could lead to inaccurate measurement of or deterioration of credit quality of our borrowers and counterparties or the value of collateral and result in unexpected losses. In addition, we may incur higher than anticipated credit losses in periods of market illiquidity or as a result of disputes with counterparties over the valuation of collateral during periods of economic stress.

Certain of our credit exposures are concentrated by product, industry or country. Although our models and estimates account for correlations among related types of exposures, a change in the market environment for a concentrated product or an external factor impacting a concentrated industry or country may result in credit losses in excess of amounts forecast. Concentrations of credit risk are managed through the Firm's comprehensive and global Credit Limits Framework.

In addition, as a clearing member of several central counterparties, we are responsible for the defaults or misconduct of our customers and could incur financial losses in the event of default by other clearing members. 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—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), as well as human error or malfeasance, 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 disruption 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.

There can be no assurance that our business contingency and security response 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 businesses and the communities where we are located, which are concentrated in the New York metropolitan area, London, Hong Kong and Tokyo, as well as Baltimore, Glasgow, Frankfurt, Budapest and Mumbai. This may include a disruption involving physical site access; cybersecurity incidents; terrorist activities; political unrest; disease pandemics; catastrophic events; climate-related incidents and natural disasters (such as earthquakes, tornadoes, hurricanes and wildfires); 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.

Notwithstanding evolving technology and technology-based risk and control systems, our businesses ultimately rely on people, including our employees and those of third parties with which we conduct business. As a result of human error or engagement in violations of applicable policies, laws, rules or procedures, certain errors or violations are not always discovered immediately by our technological processes or by our controls and other procedures, which are intended to prevent and detect such errors or violations. These can include calculation errors, mistakes in addressing emails or other communications, errors in software or model development or implementation, or errors in judgment, as well as intentional efforts to disregard or circumvent applicable policies, laws, rules or procedures. Human errors and malfeasance, even if promptly discovered and remediated, can result in material losses and liabilities for us.

We conduct business in various jurisdictions outside the U.S., including jurisdictions that may not have comparable levels of protection for their corporate assets such as intellectual property, trademarks, trade secrets, know-how and customer information and records. The protection afforded in those jurisdictions may be less established and/or predictable than in the U.S. or other jurisdictions in which we operate. As a result, there may also be heightened risks associated with the potential theft of their data, technology and intellectual property in those jurisdictions by domestic or foreign actors, including private parties and those affiliated with or controlled by state actors. Any theft of data, technology or intellectual property may negatively impact our operations and reputation, including disrupting the business activities of our subsidiaries, affiliates, joint ventures or clients conducting business in those jurisdictions.

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, mobile telecommunications and cloud 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. Global events and geopolitical instability may lead to increased nation state targeting of financial institutions in the U.S. and abroad. Foreign state actors have become more sophisticated over time, increasing the risk of such an attack. 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, its third party providers, and its clients 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.

We continue to make investments with a view toward maintaining and enhancing its cybersecurity posture. The cost of managing cyber and information security risks and attacks along with complying with new, increasingly expansive, and evolving 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 as well as 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—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, our inability to access the secured lending markets, or unanticipated outflows of cash or collateral by customers or clients. 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 or other obligations. 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 company-specific and industry-wide factors that are important to the determination of our credit ratings. These include governance, the level and quality of earnings, capital adequacy, liquidity and funding, risk appetite and management, asset quality, strategic direction, business mix, regulatory or legislative changes, macro-economic environment, and perceived levels of 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 restrictions, 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—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 Firm and its employees 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. Legal and regulatory requirements continue to be subject to ongoing change, 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 adequate 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 resolution plan, pursuant to which it would provide such capital and liquidity to such entities.

In further development of our SPOE strategy, we have created a wholly owned, direct subsidiary of the Parent Company, Morgan Stanley Holdings LLC ("Funding IHC"), to serve as a resolution funding vehicle. The Parent Company has transferred, and has agreed to transfer on an ongoing basis, certain assets to the Funding IHC. In the event of a resolution scenario, the Parent Company would be obligated to contribute all of its material assets that can be contributed under the terms

of the amended and restated support agreement (other than shares in subsidiaries of the Parent Company and certain other assets) ("Contributable Assets"), to the Funding IHC. The Funding IHC would be obligated to provide capital and liquidity, as applicable, to our material entities.

The obligations of the Parent Company and the Funding IHC under the 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 and certain other assets), and the assets of the Funding IHC. As a result, claims of our material entities, including the Funding IHC, against the assets of the Parent Company with respect to such secured assets are effectively senior to unsecured obligations of the Parent Company.

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 and other resolution regimes. For example, the Federal Reserve requires top-tier BHCs of U.S. G-SIBs, including the Firm, 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.

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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 13 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. 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.

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, which could result in unexpected losses.

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—Market Risk."

Planned replacement of London Interbank Offered Rate and replacement or reform of other interest rate benchmarks 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 to replace LIBOR and replace or reform other interest rate benchmarks (collectively, the "IBORs"). A transition away from the widespread use of such rates to alternative rates and other potential interest rate benchmark reforms has begun and will continue 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. As a result, there is considerable uncertainty regarding the publication of LIBOR beyond 2021, and regulators globally have continued to emphasize the need for the industry to plan accordingly.

The Federal Reserve Bank of New York now publishes three reference rates based on overnight U.S. Treasury repurchase agreement transactions, including the Secured Overnight Financing Rate, which had been recommended as the alternative to U.S. dollar LIBOR by the Alternative Reference Rates Committee convened by the Federal Reserve and the Federal Reserve Bank of New York. 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 selected 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, 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;

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- 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 a population of products with documentation that governs or references IBOR or IBOR-based products but that cannot be amended due to an inability to obtain sufficient consent from counterparties or product owners;
- Result in inquiries or other actions from regulators in respect of our (or the market's) preparation and readiness for the replacement of an IBOR with one or more alternative reference rates;
- Result in disputes, litigation or other actions with clients, counterparties and investors, in various scenarios, such as 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 IBORs 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.

Other factors include the pace of the transition to the alternative reference rates, timing mismatches between cash and derivative markets, the specific terms and parameters for and market acceptance of any alternative reference rate, market conventions for the use of any alternative reference rate in connection with a particular product (including the timing and market adoption of any conventions proposed or recommended by any industry or other group), 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 financial services firms and others, 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 and the introduction and application of new technologies 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, other automated trading platforms and the introduction and application of new technologies 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 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 and results of operations, 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 numerous 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, such as the coronavirus, or other widespread health emergencies, natural disasters, terrorist activities or military actions, or social or political tensions, could create economic and financial disruptions in emerging markets or in other areas of the global economy that could adversely affect our businesses, or could lead to operational difficulties (including travel limitations) that could impair our ability to manage or conduct 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 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 January 31, 2020, the U.K. withdrew from the E.U. under the terms of a withdrawal agreement between the U.K. and the E.U. The withdrawal agreement provides for a transition period to the end of December 2020, during which time the U.K. will continue to apply E.U. law as if it were a member state, and U.K. firms' passporting rights to provide financial services in E.U. jurisdictions will continue. Under the terms of the withdrawal agreement the U.K. and the E.U. may agree to an extension of the transition period for up to two years, although the U.K. Government has signaled that it will not seek any extension.

With respect to financial services, the withdrawal agreement provides that the U.K. and the E.U. will endeavor to conclude by June 2020 whether they will grant each other equivalence under European financial regulations. Equivalence would provide a degree of access to E.U. markets for U.K. financial firms, although the extent and duration of such access remains subject to negotiation.

If equivalence (or any alternative arrangement) is not agreed, our U.K. licensed entities may be unable to provide regulated services in a number of E.U. jurisdictions from the end of December 2020, absent further regulatory relief.

Potential effects of the U.K. exit from the E.U. and potential mitigation actions may vary considerably depending on the nature of the future trading arrangements between the U.K. and the E.U.

While we have taken 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, 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 implemented or planned, our results of operations and business prospects could be negatively affected. See also “Management’s Discussion and Analysis of Financial Condition and Results of Operations—Liquidity and Capital Resources—Regulatory Requirements—Regulatory Developments.”

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. Certain of these strategic initiatives, and integration thereof, may cause us to incur incremental expenses and may also require incremental financial, management and other resources.

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, divestitures or investments will be successfully integrated or disaggregated or yield all of the positive benefits and synergies 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, services, competitors, 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, or services are being delivered.

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

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Selected Financial Data

Income Statement Data

$ in millions	**2019**	2018	2017	2016	2015
Revenues					
Total non-interest revenues[1]	**$ 36,725**	$ 36,301	$ 34,645	$ 30,933	$ 32,062
Interest income	**17,098**	13,892	8,997	7,016	5,835
Interest expense	**12,404**	10,086	5,697	3,318	2,742
Net interest	**4,694**	3,806	3,300	3,698	3,093
Net revenues	**41,419**	40,107	37,945	34,631	35,155
Non-interest expenses					
Compensation and benefits	**18,837**	17,632	17,166	15,878	16,016
Non-compensation expenses[1]	**11,281**	11,238	10,376	9,905	10,644
Total non-interest expenses	**30,118**	28,870	27,542	25,783	26,660
Income from continuing operations before income taxes	**11,301**	11,237	10,403	8,848	8,495
Provision for (benefit from) income taxes	**2,064**	2,350	4,168	2,726	2,200
Income from continuing operations	**9,237**	8,887	6,235	6,122	6,295
Income (loss) from discontinued operations, net of income taxes	**—**	(4)	(19)	1	(16)
Net income	**$ 9,237**	$ 8,883	$ 6,216	$ 6,123	$ 6,279
Net income applicable to noncontrolling interests	**195**	135	105	144	152
Net income applicable to Morgan Stanley	**$ 9,042**	$ 8,748	$ 6,111	$ 5,979	$ 6,127
Preferred stock dividends and other	**530**	526	523	471	456
Earnings applicable to Morgan Stanley common shareholders	**$ 8,512**	$ 8,222	$ 5,588	$ 5,508	$ 5,671
Amounts applicable to Morgan Stanley					
Income from continuing operations	**$ 9,042**	$ 8,752	$ 6,130	$ 5,978	$ 6,143
Income (loss) from discontinued operations	**—**	(4)	(19)	1	(16)
Net income applicable to Morgan Stanley	**$ 9,042**	$ 8,748	$ 6,111	$ 5,979	$ 6,127
Effective income tax rate from continuing operations	**18.3%**	20.9%	40.1%	30.8%	25.9%

Financial Measures

	2019	2018	2017	2016	2015
ROE[2]	**11.7%**	11.8%	8.0%	8.0%	8.5%
ROTCE[2,3]	**13.4%**	13.5%	9.2%	9.3%	9.9%

Common Share-Related Data

	2019	2018	2017	2016	2015
Per common share					
Earnings (basic)[4]	**$ 5.26**	$ 4.81	$ 3.14	$ 2.98	$ 2.97
Earnings (diluted)[4]	**5.19**	4.73	3.07	2.92	2.90
Book value[5]	**45.82**	42.20	38.52	36.99	35.24
Tangible book value[3,5]	**40.01**	36.99	33.46	31.98	30.26
Dividends declared	**1.30**	1.10	0.90	0.70	0.55
Common shares outstanding					
in millions					
At December 31	**1,594**	1,700	1,788	1,852	1,920
Annual average:					
Basic	**1,617**	1,708	1,780	1,849	1,909
Diluted	**1,640**	1,738	1,821	1,887	1,953

Balance Sheet Data

$ in millions	**2019**	2018	2017	2016	2015
GLR[6]	**$ 217,457**	$ 249,735	$ 192,660	$ 202,297	$ 203,264
Loans[7]	**130,637**	115,579	104,126	94,248	85,759
Total assets	**895,429**	853,531	851,733	814,949	787,465
Deposits	**190,356**	187,820	159,436	155,863	156,034
Borrowings	**192,627**	189,662	192,582	165,716	155,941
Morgan Stanley shareholders' equity	**81,549**	80,246	77,391	76,050	75,182
Common shareholders' equity	**73,029**	71,726	68,871	68,530	67,662
Tangible common shareholders' equity[3]	**63,780**	62,879	59,829	59,234	58,098

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 period results have not been restated pursuant to this guidance.
2. ROE and ROTCE represent earnings applicable to Morgan Stanley common shareholders 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 further information on 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 8 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. See the “Glossary of Common Terms and Acronyms” for the definition of certain terms and acronyms used throughout this Form 10-K. For an analysis of 2018 results compared with 2017 results, see Part II, Item 7, “Management's Discussion and Analysis of Financial Condition and Results of Operations” in 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 and commercial real estate loans, providing secured lending facilities, and extending financing to sales and trading customers. Other activities include Asia wealth management services, 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; stock plan administration 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, which are offered through a variety of investment vehicles, 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 generally 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; legislative, legal and regulatory developments; and 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.

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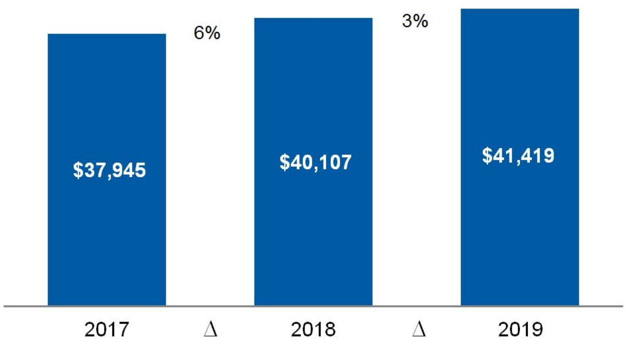
Executive Summary

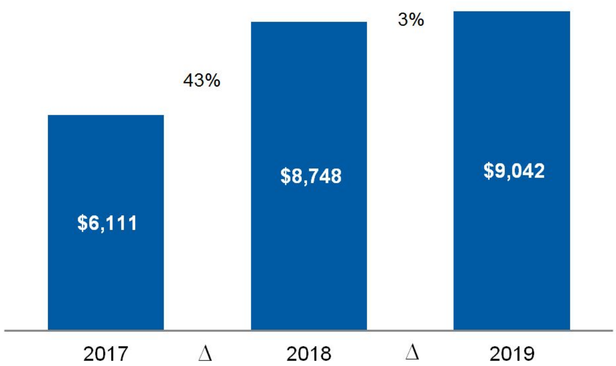
Overview of Financial Results

Consolidated Results

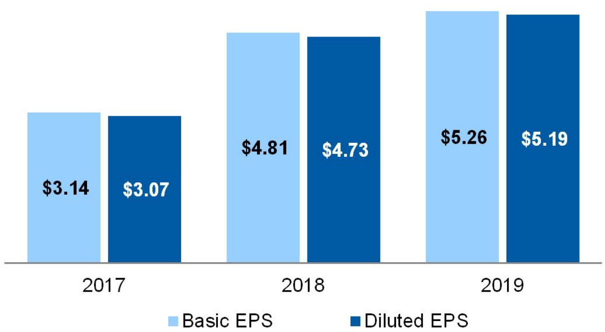
Net Revenues[1]
($ in millions)



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	**2019**	2018	2017
Net income applicable to Morgan Stanley			
U.S. GAAP	**$ 9,042**	$ 8,748	$ 6,111
Adjusted—Non-GAAP[3]	**8,694**	8,545	7,079
Earnings per diluted common share			
U.S. GAAP[2]	**$ 5.19**	$ 4.73	$ 3.07
Adjusted—Non-GAAP[3]	**4.98**	4.61	3.60

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. 2017 results have not been restated pursuant to this guidance.
2. For further information on 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 net discrete tax provisions (benefits) that are intermittent and include those that are recurring. Provisions (benefits) related to conversion of employee share-based awards are expected to occur every year and, as such, are considered recurring discrete tax items. For further information on the net discrete tax provisions (benefits), see "Supplemental Financial Information—Income Tax Matters" herein.

2019 Compared with 2018

- We reported net revenues of $41,419 million in 2019 compared with $40,107 million in 2018. For 2019, net income applicable to Morgan Stanley was $9,042 million, or $5.19 per diluted common share, compared with $8,748 million, or $4.73 per diluted common share, in 2018.
- Results for 2019 and 2018 include intermittent net discrete tax benefits of $348 million and $203 million or $0.21 and $0.12 per diluted common share, respectively, primarily associated with remeasurement of reserves and related interest as a result of new information pertaining to the resolution of multi-jurisdiction tax examinations.
- Excluding the intermittent net discrete tax items, net income applicable to Morgan Stanley was $8,694 million, or $4.98 per diluted common share in 2019, compared with $8,545 million, or $4.61 per diluted common share, in 2018 (see "Selected Non-GAAP Financial Information" herein).

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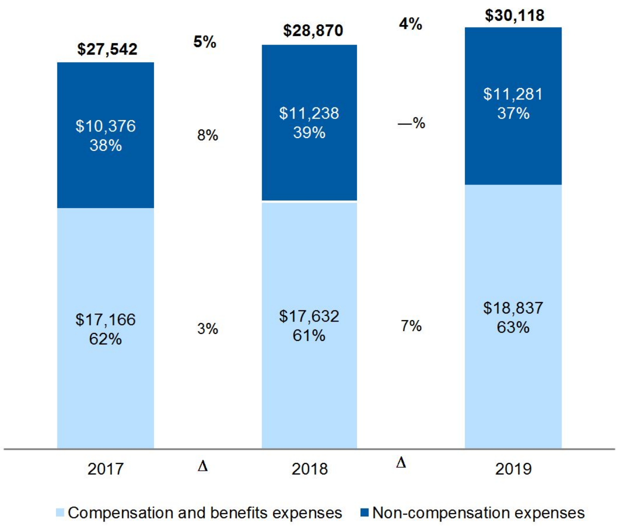
Non-interest Expenses[1, 2]

($ 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. 2017 results have not been restated pursuant to this guidance.

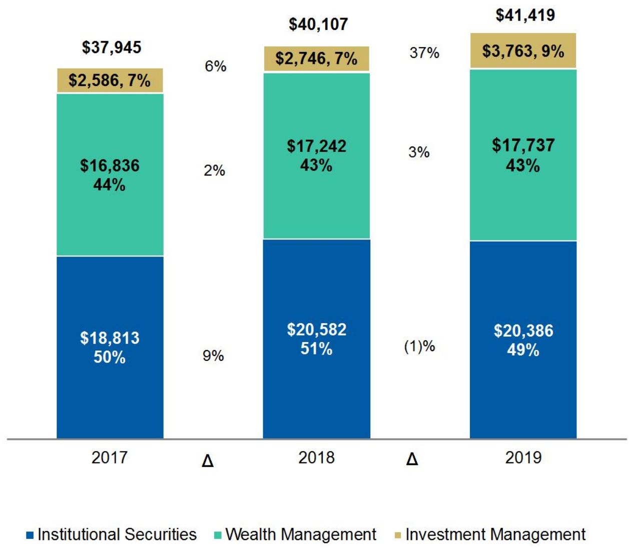
2019 Compared with 2018

- Compensation and benefits expenses of $18,837 million in 2019 increased 7% from $17,632 million in 2018. The 2019 results reflect increases in the fair value of investments to which certain deferred compensation plans are referenced, carried interest, salaries, and severance-related costs. These increases were partially offset by decreases in discretionary incentive compensation and the roll-off of certain acquisition-related employee retention loans.
- Non-compensation expenses of $11,281 million in 2019 were relatively unchanged from $11,238 million in 2018, with increased investment in technology offset by lower professional services expenses.

Business Segment Results

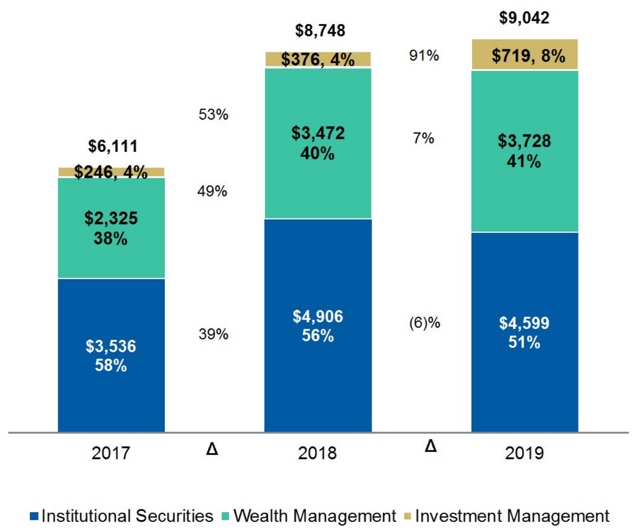
Net Revenues by Segment[1, 2]

($ in millions)



Net Income Applicable to Morgan Stanley by Segment[1]

($ in millions)



1. The percentages on the bars in the charts represent the contribution of each business segment to the total of the applicable financial category and may not total to 100% due to intersegment eliminations. See Note 21 to the financial statements for details of intersegment eliminations.
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. This new guidance had the effect of increasing revenues reported in the Institutional Securities and Investment Management business segments. 2017 results have not been restated pursuant to this guidance.

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2019 Compared with 2018

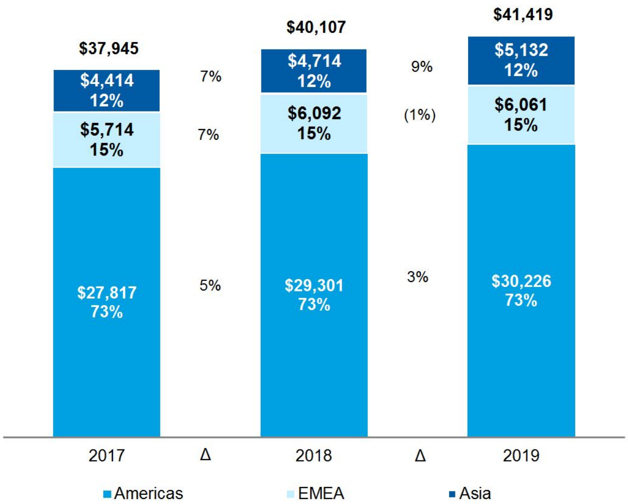
- Institutional Securities net revenues of $20,386 million in 2019 were relatively unchanged from 2018, reflecting a mixed market backdrop, with lower revenues from Equity sales and trading and Investment banking offset by higher Fixed income and Other sales and trading revenues.

- Wealth Management net revenues of $17,737 million in 2019 increased 3% from 2018, primarily reflecting higher Transactional revenues due to gains related to investments associated with certain deferred compensation plans.

- Investment Management net revenues of $3,763 million in 2019 increased 37% from 2018, primarily reflecting higher Investments revenues, principally driven by an underlying investment's initial public offering within an Asia private equity fund.

Net Revenues by Region[1, 2]

($ in millions)



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

Financial Measures

	2019	2018	2017
Consolidated financial measures			
ROE	**11.7%**	11.8%	8.0%
Adjusted ROE[1, 2]	**11.2%**	11.5%	9.4%
ROTCE[1]	**13.4%**	13.5%	9.2%
Adjusted ROTCE[1, 2]	**12.9%**	13.2%	10.8%
Expense efficiency ratio[3]	**72.7%**	72.0%	72.6%
Pre-tax margin[4]	**27.3%**	28.0%	27.4%
Worldwide employees	**60,431**	60,348	57,633
Pre-tax margin by segment[4]			
Institutional Securities	**27%**	30%	30%
Wealth Management	**27%**	26%	26%
Investment Management	**26%**	17%	18%

	At December 31, 2019	At December 31, 2018
Capital ratios[5]		
Common Equity Tier 1 capital	**16.4%**	16.9%
Tier 1 capital	**18.6%**	19.2%
Total capital	**21.0%**	21.8%
Tier 1 leverage	**8.3%**	8.4%
SLR	**6.4%**	6.5%

1. Represents a non-GAAP measure. See "Selected Non-GAAP Financial Information" herein.
2. Adjusted amounts exclude net discrete tax provisions (benefits) that are intermittent and include those that are recurring. Provisions (benefits) related to conversion of employee share-based awards are expected to occur every year and, as such, are considered recurring discrete tax items. For further information on the net discrete tax provisions (benefits), see "Supplemental Financial Information—Income Tax Matters" herein.
3. The expense efficiency ratio represents total non-interest expenses as a percentage of net revenues.
4. Pre-tax margin represents income from continuing operations before income taxes as a percentage of net revenues.
5. At December 31, 2019 and 2018, our risk-based capital ratios are based on the Standardized Approach rules. For a discussion of our capital ratios, 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, analysts and other stakeholders 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 in the following tables.

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

$ in millions, except per share data	2019	2018	2017
Net income applicable to Morgan Stanley	**$ 9,042**	$ 8,748	$ 6,111
Impact of adjustments	**(348)**	(203)	968
Adjusted net income applicable to Morgan Stanley—non-GAAP[1]	**$ 8,694**	$ 8,545	$ 7,079
Earnings per diluted common share	**$ 5.19**	$ 4.73	$ 3.07
Impact of adjustments	**(0.21)**	(0.12)	0.53
Adjusted earnings per diluted common share —non-GAAP[1]	**$ 4.98**	$ 4.61	$ 3.60
Effective income tax rate	**18.3%**	20.9%	40.1 %
Impact of adjustments	**3.0%**	1.8%	(9.3)%
Adjusted effective income tax rate—non-GAAP[1]	**21.3%**	22.7%	30.8 %

	Average Monthly Balance		
$ in millions	2019	2018	2017
Tangible equity			
Morgan Stanley shareholders' equity	**$ 81,240**	$ 78,497	$ 78,230
Less: Goodwill and net intangible assets	**(9,140)**	(8,985)	(9,158)
Tangible Morgan Stanley shareholders' equity	**$ 72,100**	$ 69,512	$ 69,072
Common shareholders' equity	**$ 72,720**	$ 69,977	$ 69,787
Less: Goodwill and net intangible assets	**(9,140)**	(8,985)	(9,158)
Tangible common shareholders' equity	**$ 63,580**	$ 60,992	$ 60,629

$ in billions	2019	2018	2017
Average common equity			
Unadjusted—GAAP	**$ 72.7**	$ 70.0	$ 69.8
Adjusted[1]—Non-GAAP	**72.6**	69.9	69.9
ROE[2]			
Unadjusted—GAAP	**11.7%**	11.8%	8.0%
Adjusted[1, 3]—Non-GAAP	**11.2%**	11.5%	9.4%
Average tangible common equity—Non-GAAP			
Unadjusted	**$ 63.6**	$ 61.0	$ 60.6
Adjusted[1]	**63.5**	60.9	60.7
ROTCE[2]—Non-GAAP			
Unadjusted	**13.4%**	13.5%	9.2%
Adjusted[1, 3]	**12.9%**	13.2%	10.8%

Non-GAAP Financial Measures by Business Segment

$ in billions	2019	2018	2017
Average common equity[4, 5]			
Institutional Securities	**$ 40.4**	$ 40.8	$ 40.2
Wealth Management	**18.2**	16.8	17.2
Investment Management	**2.5**	2.6	2.4
Average tangible common equity[4, 5]			
Institutional Securities	**$ 39.9**	$ 40.1	$ 39.6
Wealth Management	**10.2**	9.2	9.3
Investment Management	**1.5**	1.7	1.6
ROE[6]			
Institutional Securities	**10.4%**	11.0%	7.8%
Wealth Management	**19.8%**	20.0%	12.9%
Investment Management	**28.9%**	14.2%	10.1%
ROTCE[6]			
Institutional Securities	**10.5%**	11.2%	7.9%
Wealth Management	**35.6%**	36.6%	23.8%
Investment Management	**46.6%**	22.2%	14.8%

1. Adjusted amounts exclude net discrete tax provisions (benefits) that are intermittent and include those that are recurring. Provisions (benefits) related to conversion of employee share-based awards are expected to occur every year and, as such, are considered recurring discrete tax items. For further information on the net discrete tax provisions (benefits), see "Supplemental Financial Information—Income Tax Matters" herein.
2. ROE and ROTCE represent earnings applicable to Morgan Stanley common shareholders as a percentage of average common equity and average tangible common equity, respectively. 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. Average common equity and average tangible common equity for each business segment is 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).
5. The sums of the segments' Average common equity and Average tangible common equity do not equal the Consolidated measures due to Parent equity.
6. The calculation of ROE and ROTCE by segment uses 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 previously 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 11.2% ROE and a 12.9% ROTCE for 2019.

In January 2020, we established a new ROTCE Target of 13% to 15% to be achieved over the next two years.

Our ROTCE Target is a forward-looking statement 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; 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 (ROTCE and ROE excluding intermittent net discrete tax items), see "Selected Non-GAAP Financial Information" herein. For information on the impact of intermittent net discrete tax items, see "Supplemental Financial Information—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. See Note 21 to the financial statements for information on intersegment transactions.

Net Revenues

Investment Banking

Investment banking revenues are derived from client engagements in which we act as an adviser, underwriter or distributor of capital.

Within the Institutional Securities business segment, these revenues are primarily composed of fees earned from underwriting equity and fixed income securities, syndicating loans and advisory services in relation to mergers, acquisitions and restructurings.

Within the Wealth Management business segment, these revenues are derived from the distribution of newly issued securities.

Trading

Trading revenues include the realized gains and losses from transactions in financial instruments, unrealized gains and losses from ongoing changes in the fair value of our positions and gains and losses from financial instruments used to economically hedge compensation expense related to certain employee deferred compensation plans.

Within the Institutional Securities business segment, Trading revenues arise from transactions in cash instruments and derivatives in which we act as a market maker for our clients. In this role, 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:

- 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;
- building, maintaining and rebalancing inventory through trades with other market participants;
- 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;
- trading in the market to remain current on pricing and trends; and
- engaging in other activities to provide efficiency and liquidity for markets.

In many markets, the realized and unrealized gains and losses from 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.

Within the Wealth Management business segment, Trading revenues primarily include revenues from customers' purchases and sales of fixed income instruments in which we act as principal, and gains and losses related to investments associated with certain employee deferred compensation plans.

Investments

Investments revenues are composed of realized and unrealized gains and losses derived from investments, including those associated with employee deferred compensation and co-investment plans. Estimates of the fair value of the investments that produce these revenues 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.

Within the Institutional Securities segment, gains and losses are primarily from business-related investments. Certain investments are subject to sale restrictions. Typically, there are no fee revenues from these investments.

Within the Investment Management business segment, Investments revenues, in addition to gains and losses from investments, include performance-based fees in the form of carried interest, a portion of which is subject to reversal. The business is entitled to receive carried interest when the return in certain funds exceeds specified performance targets. Additionally, there are certain sponsored Investment Management funds consolidated by us where revenues are primarily attributable to holders of noncontrolling interests.

Commissions and Fees

Commissions and fees result from arrangements in which the client is charged a fee for executing transactions related to securities, services related to sales and trading activities, and sales of other products.

Within the Institutional Securities business segment, commissions and fees include fees earned from trading activities, such as executing and clearing client transactions on major stock and derivative exchanges, as well as from OTC derivatives.

Within the Wealth Management business segment, commissions and fees primarily arise from client transactions in equity securities, insurance products, mutual funds, futures and options.

Asset Management

Asset management revenues include fees associated with the management and supervision of assets, and the distribution of funds and similar products.

Within the Wealth Management business segment, Asset management revenues are associated with advisory services and management of assets, account service and administration, as well as distribution of products. These revenues are generally based on the net asset value of the account in which a client is invested.

Within the Investment Management business segment, Asset management revenues are primarily composed of fees received from 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 and separately managed accounts as a percentage of appreciation generally earned by those products and, in certain cases, are based upon the achievement of performance criteria. These performance fees are generally recognized annually.

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.

Within the Institutional Securities business segment, Net interest is a function of market-making strategies, customer activity in the prime brokerage business, and the prevailing level, term structure and volatility of interest rates. Net interest is impacted by market-making activities as securities held by the Firm earn interest, while securities that are loaned, borrowed, sold with agreements to repurchase and purchased with agreements to resell incur interest expense.

Within the Wealth Management business segment, Interest income is driven by Investment securities, Loans and margin loans. Interest expense is driven by Deposits and other funding.

Other

Other revenues for Institutional Securities include revenues and losses from equity method investments, lending commitments, fees earned in association with lending activities and the provision for loan losses.

Other revenues for Wealth Management are derived from realized gains and losses on AFS securities, the provision for loan losses, account handling fees, referral fees and other miscellaneous revenues.

Institutional Securities—Sales and Trading Revenues

Sales and trading net revenues are composed of Trading revenues, Commissions and fees, Asset management revenues and Net interest. These revenues, which can be impacted by a variety of interrelated market factors, including volumes, bid-offer spreads and inventory prices, as well as the impact of hedging activity, are viewed in the aggregate when assessing the performance and profitability of our sales and trading activities. We make transaction-related decisions based on, among other things, an assessment of the potential gain or loss associated with a transaction, including any associated commissions and fees, dividends, or net interest income, any costs associated with financing or hedging our positions and other related expenses.

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

Equity—Financing. We provide financing, prime brokerage and fund administration 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. Fees for providing fund administration services are reflected in Asset management revenues.

Equity—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 those that provide liquidity and are utilized for hedging. Market making also generates gains and losses on positions held in inventory, which are reflected in Trading revenues.

Fixed income—Within fixed income, we make markets in various flow and structured products 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 metals. Other activities primarily include results from the centralized management of our fixed income derivative counterparty exposures and managing derivative counterparty risk on behalf of clients. These activities are primarily recorded in Trading revenues.

Other sales and trading revenues include impacts from certain treasury functions, such as liquidity costs and gains and losses on economic hedges related to certain borrowings, certain activities associated with corporate lending, as well as gains and losses from financial instruments used to economically hedge compensation expense related to certain employee deferred compensation plans.

Compensation Expense

Compensation and benefits expenses include 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 allocated to employees, severance costs, and other items such as health and welfare benefits.

The factors that drive compensation for our employees vary from period to period, 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 other employees, including revenue-producing employees in the Institutional Securities business segment, include base salary and benefits, and may also include incentive compensation that is determined following the assessment of the Firm’s, business unit’s and individual’s performance.

Compensation expense for deferred cash-based compensation plans is recognized over the relevant vesting period and is adjusted based on the notional earnings of the referenced investments until distribution. 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 compensation expense recognized 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.

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Institutional Securities

Income Statement Information

$ in millions	2019	2018	2017	% Change 2019	% Change 2018
Revenues					
Investment banking	**$ 5,734**	$ 6,088	$ 5,537	**(6)%**	10 %
Trading	**10,318**	11,191	10,295	**(8)%**	9 %
Investments	**325**	182	368	**79 %**	(51)%
Commissions and fees	**2,484**	2,671	2,433	**(7)%**	10 %
Asset management	**413**	421	359	**(2)%**	17 %
Other	**632**	535	630	**18 %**	(15)%
Total non-interest revenues	**19,906**	21,088	19,622	**(6)%**	7 %
Interest income	**12,193**	9,271	5,377	**32 %**	72 %
Interest expense	**11,713**	9,777	6,186	**20 %**	58 %
Net interest	**480**	(506)	(809)	**195 %**	37 %
Net revenues	**20,386**	20,582	18,813	**(1)%**	9 %
Compensation and benefits	**7,433**	6,958	6,625	**7 %**	5 %
Non-compensation expenses	**7,463**	7,364	6,544	**1 %**	13 %
Total non-interest expenses	**14,896**	14,322	13,169	**4 %**	9 %
Income from continuing operations before income taxes	**5,490**	6,260	5,644	**(12)%**	11 %
Provision for income taxes	**769**	1,230	1,993	**(37)%**	(38)%
Income from continuing operations	**4,721**	5,030	3,651	**(6)%**	38 %
Income (loss) from discontinued operations, net of income taxes	**—**	(6)	(19)	**100 %**	68 %
Net income	**4,721**	5,024	3,632	**(6)%**	38 %
Net income applicable to noncontrolling interests	**122**	118	96	**3 %**	23 %
Net income applicable to Morgan Stanley	**$ 4,599**	$ 4,906	$ 3,536	**(6)%**	39 %

Investment Banking

Investment Banking Revenues

$ in millions	2019	2018	2017	% Change 2019	% Change 2018
Advisory	**$ 2,116**	$ 2,436	$ 2,077	**(13)%**	17 %
Underwriting:					
Equity	**1,708**	1,726	1,484	**(1)%**	16 %
Fixed Income	**1,910**	1,926	1,976	**(1)%**	(3)%
Total Underwriting	**3,618**	3,652	3,460	**(1)%**	6 %
Total Investment banking	**$ 5,734**	$ 6,088	$ 5,537	**(6)%**	10 %

Investment Banking Volumes

$ in billions	2019	2018	2017
Completed mergers and acquisitions[1]	**$ 818**	$ 1,114	$ 753
Equity and equity-related offerings[2, 3]	**61**	64	65
Fixed income offerings[2, 4]	**270**	241	307

Source: Refinitiv (formerly Thomson Reuters Financial & Risk), data as of January 2, 2020. 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, change in value or change in timing of certain transactions.

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, 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.

2019 Compared with 2018

Investment banking revenues of $5,734 million in 2019 decreased 6% from 2018, reflecting lower results in our advisory business.

- Advisory revenues decreased primarily as a result of lower volumes of completed M&A activity.
- Equity underwriting revenues were relatively unchanged as lower revenues in initial public offerings were offset by higher revenues in secondary block share trades.
- Fixed income underwriting revenues were essentially unchanged as lower non-investment grade loan issuance fees were offset by higher fees from bond and investment grade loan issuances.

Sales and Trading Net Revenues

By Income Statement Line Item

$ in millions	2019	2018	2017	% Change 2019	% Change 2018
Trading	**$ 10,318**	$ 11,191	$ 10,295	**(8)%**	9%
Commissions and fees	**2,484**	2,671	2,433	**(7)%**	10%
Asset management	**413**	421	359	**(2)%**	17%
Net interest	**480**	(506)	(809)	**195 %**	37%
Total	**$ 13,695**	$ 13,777	$ 12,278	**(1)%**	12%

By Business

$ in millions	2019	2018	2017	% Change 2019	% Change 2018
Equity	**$ 8,056**	$ 8,976	$ 7,982	**(10)%**	12%
Fixed income	**5,546**	5,005	4,928	**11 %**	2%
Other	**93**	(204)	(632)	**146 %**	68%
Total	**$ 13,695**	$ 13,777	$ 12,278	**(1)%**	12%

Sales and Trading Revenues—Equity and Fixed Income

$ in millions	2019 Trading	2019 Fees[1]	2019 Net Interest[2]	2019 Total
Financing	**$ 4,225**	**$ 372**	**$ (514)**	**$ 4,083**
Execution services	**1,986**	**2,202**	**(215)**	**3,973**
Total Equity	**$ 6,211**	**$ 2,574**	**$ (729)**	**$ 8,056**
Total Fixed income	**$ 5,171**	**$ 324**	**$ 51**	**$ 5,546**

$ 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

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

2019 Compared with 2018

Equity

Equity sales and trading net revenues of $8,056 million in 2019 decreased 10% from 2018, reflecting lower results in both our financing and execution services businesses.

- Financing decreased from 2018, primarily due to lower realized spreads and commissions, reflected in lower Trading revenues.

- Execution services decreased from 2018, reflecting lower Trading revenues as a result of less favorable inventory management in derivatives products due to lower levels of volatility. In addition, Commissions and fees decreased driven by changes in market volumes and commission mix in cash equities products.

Fixed Income

Fixed income net revenues of $5,546 million in 2019 were 11% higher than 2018, primarily driven by higher results in credit products, partially offset by lower results in global macro products.

- Global macro products Trading revenues decreased primarily due to inventory management losses in certain foreign exchange and rates products as a result of movements in foreign exchange volatility and a decline in interest rates.

- Credit products Trading revenues increased, primarily due to improved inventory management in corporate credit and securitized products and higher client activity in securitized products.

- Commodities products and Other Trading revenues increased as gains from counterparty risk management were offset by lower client activity in commodities.

Fixed income Net interest increased compared with 2018, primarily reflecting changes in funding mix, partially offset by lower net spreads in securitized products.

Other

- Other sales and trading revenues of $93 million in 2019 increased from 2018, reflecting an increase in the fair value of investments to which certain deferred compensation plans are referenced and changes in funding mix, partially offset by higher losses on hedges associated with corporate loans.

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

2019 Compared with 2018

Investments

- In 2019, net investment gains of $325 million were higher compared with 2018, primarily as a result of realized gains associated with an investment's initial public offering in 2019.

Other Revenues

- Other revenues of $632 million in 2019 increased from 2018, primarily as a result of mark-to-market gains in 2019 compared with losses in 2018 on loans held for sale. This increase was partially offset by a higher provision for loan losses, which in 2018 included the recovery of a previously charged off loan, and lower results in our Japanese joint venture Mitsubishi UFJ Morgan Stanley Securities Co., Ltd. ("MUMSS").

Non-interest Expenses

Non-interest expenses of $14,896 million in 2019 increased from 2018, reflecting a 7% increase in Compensation and benefits expenses and a 1% increase in Non-compensation expenses.

- Compensation and benefits expenses increased in 2019, primarily due to an increase in the fair value of investments to which certain deferred compensation plans are referenced, higher salaries and severance-related costs, partially offset by decreases in discretionary incentive compensation.
- Non-compensation expenses increased in 2019, reflecting higher investments in technology, partially offset by lower professional services expenses.

Income Tax Items

Intermittent net discrete tax benefits of $317 million and $182 million were recognized in Provision for income taxes in 2019 and 2018, respectively. For further information, see "Supplemental Financial Information—Income Tax Matters" herein.

Wealth Management

Income Statement Information

$ in millions	2019	2018	2017	% Change 2019	% Change 2018
Revenues					
Investment banking	**$ 509**	$ 475	$ 533	**7 %**	(11)%
Trading	**734**	279	848	**163 %**	(67)%
Investments	**2**	1	3	**100 %**	(67)%
Commissions and fees	**1,726**	1,804	1,737	**(4)%**	4 %
Asset management	**10,199**	10,158	9,342	**— %**	9 %
Other	**345**	248	268	**39 %**	(7)%
Total non-interest revenues	**13,515**	12,965	12,731	**4 %**	2 %
Interest income	**5,467**	5,498	4,591	**(1)%**	20 %
Interest expense	**1,245**	1,221	486	**2 %**	151 %
Net interest	**4,222**	4,277	4,105	**(1)%**	4 %
Net revenues	**17,737**	17,242	16,836	**3 %**	2 %
Compensation and benefits	**9,774**	9,507	9,360	**3 %**	2 %
Non-compensation expenses	**3,131**	3,214	3,177	**(3)%**	1 %
Total non-interest expenses	**12,905**	12,721	12,537	**1 %**	1 %
Income from continuing operations before income taxes	**4,832**	4,521	4,299	**7 %**	5 %
Provision for income taxes	**1,104**	1,049	1,974	**5 %**	(47)%
Net income applicable to Morgan Stanley	**$ 3,728**	$ 3,472	$ 2,325	**7 %**	49 %

Financial Information and Statistical Data

$ in billions, except employee data	At December 31, 2019	At December 31, 2018
Client assets	**$ 2,700**	$ 2,303
Fee-based client assets[1]	**$ 1,267**	$ 1,046
Fee-based client assets as a percentage of total client assets	**47%**	45%
Client liabilities[2]	**$ 90**	$ 83
Investment securities portfolio	**$ 67.2**	$ 68.6
Loans and lending commitments	**$ 93.2**	$ 82.9
Wealth Management representatives	**15,468**	15,694

	2019	2018	2017
Per representative:			
Revenues ($ in thousands)[3]	**$ 1,136**	$ 1,100	$ 1,068
Client assets ($ in millions)[4]	**$ 175**	$ 147	$ 151
Fee-based asset flows ($ in billions)[5]	**$ 64.9**	$ 65.9	$ 75.4

1. Fee-based client assets represent the amount of assets in client accounts where the fee for services is calculated based 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 number of representatives.
4. Client assets per representative equal total period-end client assets divided by period-end number of representatives.
5. For a description of the Inflows and Outflows included in Fee-based asset flows, see Fee-based client assets herein. Excludes institutional cash management-related activity.

Transactional Revenues

$ in millions	2019	2018	2017	% Change 2019	% Change 2018
Investment banking	**$ 509**	$ 475	$ 533	**7 %**	(11)%
Trading	**734**	279	848	**163 %**	(67)%
Commissions and fees	**1,726**	1,804	1,737	**(4)%**	4 %
Total	**$ 2,969**	$ 2,558	$ 3,118	**16 %**	(18)%
Transactional revenues as a % of Net revenues	**17%**	15%	19%		

2019 Compared with 2018

Net Revenues

Transactional Revenues

Transactional revenues of $2,969 million in 2019 increased 16%, primarily as a result of higher Trading revenues, partially offset by lower Commissions and fees.

- Investment banking revenues increased in 2019, primarily due to higher revenues from closed-end fund issuances.
- Trading revenues increased in 2019, primarily due to gains related to investments associated with certain employee deferred compensation plans, partially offset by lower fixed income revenues driven by product mix.
- Commissions and fees decreased in 2019, primarily due to changes in the mix of client activity in equities, partially offset by increased client activity in alternative products.

Asset Management

Asset management revenues of $10,199 million in 2019 were relatively unchanged compared with 2018, reflecting the effect of higher fee-based client assets levels due to market appreciation in 2019 and positive net flows, partially offset by the effect of lower fee-based client assets levels at the beginning of the year due to significant market declines in the fourth quarter of 2018, and lower average fee rates predominantly driven by shifts in the mix of fee-based client assets.

See “Fee-Based Client Assets Rollforwards” herein.

Other

Other revenues of $345 million in 2019 increased 39%, primarily due to higher realized gains from the AFS securities portfolio.

Net Interest

Net interest of $4,222 million in 2019 was relatively unchanged compared with 2018, as higher costs due to changes in our funding mix and higher prepayment amortization expense related to mortgage-backed securities were offset by the impact of higher balances of and higher interest rates on Loans, and higher investment portfolio yields.

In addition, we centralized certain internal treasury activities as of January 1, 2019, which partially offset Interest income and Interest expense compared with the prior periods. The effect on Net interest income was not significant in 2019.

Non-interest Expenses

Non-interest expenses of $12,905 million in 2019 were relatively unchanged compared with 2018, as higher Compensation and benefits expenses were offset by lower Non-compensation expenses.

- Compensation and benefits expenses increased in 2019, primarily due to increases in the fair value of investments to which certain deferred compensation plans are referenced and salaries, partially offset by the roll-off of certain acquisition-related employee retention loans.
- Non-compensation expenses decreased in 2019, primarily as a result of lower professional services expenses and lower deposit insurance expense.

Fee-Based Client Assets Rollforwards

$ in billions	At December 31, 2018	Inflows	Outflows	Market Impact	At December 31, 2019
Separately managed[1]	$ 279	**$ 53**	**$ (19)**	**$ 9**	**$ 322**
Unified managed[2]	257	**48**	**(39)**	**47**	**313**
Advisor	137	**27**	**(32)**	**23**	**155**
Portfolio manager	353	**75**	**(48)**	**55**	**435**
Subtotal	$ 1,026	**$ 203**	**$ (138)**	**$ 134**	**$ 1,225**
Cash management	20	**36**	**(14)**	**—**	**42**
Total fee-based client assets	$ 1,046	**$ 239**	**$ (152)**	**$ 134**	**$ 1,267**

$ in billions	At December 31, 2017	Inflows	Outflows	Market Impact	At December 31, 2018
Separately managed[1]	$ 252	$ 40	$ (18)	$ 5	$ 279
Unified managed[2]	271	48	(34)	(28)	257
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[2]	225	49	(34)	31	271
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

Average Fee Rates

Fee rate in bps	**2019**	2018	2017
Separately managed	**15**	16	17
Unified managed[2]	**100**	99	101
Advisor	**86**	84	86
Portfolio manager	**95**	95	97
Subtotal	**74**	76	77
Cash management	**6**	6	6
Total fee-based client assets	**73**	74	76

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. Prior periods have been recast to conform to current period presentation.

- *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. Also includes accounts that give the client the ability to systematically allocate assets across a wide range of mutual funds, for which the 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	2019	2018	2017	% Change 2019	% Change 2018
Revenues					
Trading	**$ (8)**	$ 25	$ (22)	**(132)%**	N/M
Investments	**1,213**	254	449	**N/M**	(43)%
Commissions and fees	**1**	—	—	**N/M**	— %
Asset management	**2,629**	2,468	2,196	**7 %**	12 %
Other	**(46)**	(30)	(37)	**(53)%**	19 %
Total non-interest revenues	**3,789**	2,717	2,586	**39 %**	5 %
Interest income	**20**	57	4	**(65)%**	N/M
Interest expense	**46**	28	4	**64 %**	N/M
Net interest	**(26)**	29	—	**(190)%**	N/M
Net revenues	**3,763**	2,746	2,586	**37 %**	6 %
Compensation and benefits	**1,630**	1,167	1,181	**40 %**	(1)%
Non-compensation expenses	**1,148**	1,115	949	**3 %**	17 %
Total non-interest expenses	**2,778**	2,282	2,130	**22 %**	7 %
Income from continuing operations before income taxes	**985**	464	456	**112 %**	2 %
Provision for income taxes	**193**	73	201	**164 %**	(64)%
Income from continuing operations	**792**	391	255	**103 %**	53 %
Income from discontinued operations, net of income taxes	**—**	2	—	**(100)%**	N/M
Net income	**792**	393	255	**102 %**	54 %
Net income applicable to noncontrolling interests	**73**	17	9	**N/M**	89 %
Net income applicable to Morgan Stanley	**$ 719**	$ 376	$ 246	**91 %**	53 %

2019 Compared with 2018

Net Revenues

Investments

Investments revenues of $1,213 million in 2019 compared with $254 million in 2018 reflect higher unrealized carried interest and investment gains primarily from an Asia private equity fund, principally driven by the initial public offering of an underlying investment, which is subject to certain sales restrictions.

Asset Management

Asset management revenues of $2,629 million in 2019 increased 7% compared with 2018, primarily as a result of higher average AUM and higher performance-based fees driven by real estate funds and the monetization of a client asset in 2019.

See "Assets Under Management or Supervision" herein.

Other

Other losses were $46 million in 2019 and $30 million in 2018, primarily reflecting impairments of two distinct equity method investments in third-party asset managers, one in each year.

Non-interest Expenses

Non-interest expenses of $2,778 million in 2019 increased 22% from 2018, primarily as a result of higher Compensation and benefits expenses.

- Compensation and benefits expenses increased in 2019, primarily due to higher compensation associated with carried interest.
- Non-compensation expenses increased in 2019, primarily as a result of higher fee sharing driven by higher average AUM.

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Assets Under Management or Supervision

Rollforwards

$ in billions	At December 31, 2018	Inflows	Outflows	Market Impact	Other	At December 31, 2019
Equity	$ 103	$ 39	$ (31)	$ 28	$ (1)	$ 138
Fixed income	68	25	(20)	5	1	79
Alternative/ Other	128	22	(17)	10	(4)	139
Long-term AUM subtotal	299	86	(68)	43	(4)	356
Liquidity	164	1,315	(1,283)	2	(2)	196
Total AUM	$ 463	$ 1,401	$ (1,351)	$ 45	$ (6)	$ 552
Shares of minority stake assets	7					6

$ 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

1. Included in Liquidity products outflows in 2018 is $18 billion related to the redesign of our brokerage sweep deposits program.

Average AUM

$ in billions	2019	2018	2017
Equity	$ 124	$ 111	$ 93
Fixed income	71	71	66
Alternative/Other	134	131	122
Long-term AUM subtotal	329	313	281
Liquidity	171	158	157
Total AUM	$ 500	$ 471	$ 438
Shares of minority stake assets	6	7	7

Average Fee Rates

Fee rate in bps	2019	2018	2017
Equity	76	76	73
Fixed income	32	33	33
Alternative/Other	64	66	70
Long-term AUM	61	62	62
Liquidity	17	17	17
Total AUM	46	47	46

- *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 dominated 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, excluding 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

Income Tax Matters

Effective Tax Rate from Continuing Operations

$ in millions	2019	2018	2017
U.S. GAAP	**18.3%**	20.9%	40.1%
Adjusted effective income tax rate—non-GAAP[1]	**21.3%**	22.7%	30.8%
Net discrete tax provisions/(benefits)			
Recurring[2]	**(127)**	(165)	(155)
Intermittent[3]	**(348)**	(203)	968

1. The adjusted effective income tax rate is a non-GAAP measure that excludes net discrete tax provisions (benefits) that are intermittent and includes those that are recurring. For further information on non-GAAP measures, see "Selected Non-GAAP Financial Information" herein.
2. Provisions (benefits) related to conversion of employee share-based awards are expected to occur every year and, as such, are considered recurring discrete tax items.
3. Includes all tax provisions (benefits) that have been determined to be discrete, other than Recurring items as defined above.

The effective tax rates for 2019 and 2018 include intermittent net discrete tax benefits primarily associated with remeasurement of reserves and related interest as a result of new information pertaining to the resolution of multi-jurisdiction tax examinations.

The effective tax rate reflects our current assumptions, estimates and interpretations related to the U.S. Tax Cuts and Jobs Act enacted on December 22, 2017 ("Tax Act") and other factors. For a further discussion of the Tax Act, see Note 20 to the financial statements.

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 deposits, provide loans to a variety of customers, from large corporate and institutional clients to high net worth individuals, and invest in securities. Lending activity recorded in the U.S. Bank subsidiaries from the Institutional Securities business segment primarily includes loans and lending commitments to corporate clients. Lending activity recorded in the U.S. Bank subsidiaries from the Wealth Management business segment primarily includes 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 8 and 13 to the financial statements.

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

$ in billions	At December 31, 2019	At December 31, 2018
Assets	**$ 219.6**	$ 216.9
Investment securities portfolio:		
Investment securities—AFS	**42.4**	45.5
Investment securities—HTM	**26.1**	23.7
Total investment securities	**$ 68.5**	$ 69.2
Deposits[2]	**$ 189.3**	$ 187.1
Wealth Management Loans		
Securities-based lending and other[3]	**$ 49.9**	$ 44.7
Residential real estate	**30.2**	27.5
Total	**$ 80.1**	$ 72.2
Institutional Securities Loans[4]		
Corporate[5]:		
Corporate relationship and event-driven lending	**$ 5.6**	$ 7.4
Secured lending facilities	**26.8**	17.5
Securities-based lending and other	**5.4**	6.0
Commercial and residential real estate	**12.0**	10.5
Total	**$ 49.8**	$ 41.4

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.
4. Prior periods have been conformed to the current presentation.
5. For a further discussion of corporate loans in the Institutional Securities business segment, see "Credit Risk—Institutional Securities Corporate Loans" herein.

Other Matters

Deferred Cash-Based Compensation

The Firm sponsors a number of employee deferred cash-based compensation programs. For eligible employees, a portion of their year-end discretionary incentive compensation is awarded in the form of deferred cash-based compensation. Such deferred compensation awards generally contain vesting, clawback, forfeiture and cancellation provisions. Additionally, there are certain other deferred cash-based programs that allow employees to defer the receipt of current compensation to a future date.

Employees are permitted to allocate the notional value of their deferred awards among a menu of investments, whereby the notional value of their awards will track the performance of the referenced investments. The menu of investments, which is selected by the Firm, includes fixed income, equity, commodity and money market funds.

Compensation expense for deferred cash-based compensation awards 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 separate vesting portion of deferred awards.

Correspondingly, the Firm invests directly, as a principal, in financial instruments and other investments to economically hedge its obligations under these deferred cash-based compensation plans. Changes in the value of such investments made by the Firm are recorded in Trading 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. While this timing difference is generally not material to Income from continuing operations before income taxes in any individual period, it may impact Firm reported ratios (*e.g.*, the Expense efficiency ratio) in certain periods.

Amounts Recognized in Compensation Expense

$ in millions	**2019**	2018	2017
Deferred cash-based awards	**$ 1,233**	$ 1,174	$ 1,039
Return on referenced investments	**645**	(48)	499
Total recognized in compensation expense	**$ 1,878**	$ 1,126	$ 1,538

Amounts Recognized in Compensation Expense by Segment

$ in millions	**2019**	2018	2017
Institutional Securities	**$ 916**	$ 611	$ 771
Wealth Management	**760**	346	564
Investment Management	**202**	169	203
Total recognized in compensation expense	**$ 1,878**	$ 1,126	$ 1,538

A rollforward of the Firm's estimated projected future compensation obligation for existing deferred cash-based compensation awards, exclusive of any assumptions about future market conditions with respect to referenced investments is set forth below.

Projected Future Compensation Obligation

$ in millions	
Award liabilities at December 31, 2019[1, 2]	**$ 5,376**
Fully vested amounts to be distributed by the end of February 2020[3]	**(1,042)**
Unrecognized portion of prior awards at December 31, 2019[2]	**1,092**
2019 performance year awards granted in 2020[2]	**1,050**
Total[4]	**$ 6,476**

1. Balance is reflected in Other liabilities and accrued expenses in the balance sheet as of December 31, 2019.
2. Amounts do not include assumptions regarding forfeitures, cancellations, accelerations or assumptions about future market conditions with respect to referenced investments.
3. Distributions after February of each year are generally immaterial.
4. Of the total projected future compensation obligation, approximately 40% relates to Institutional Securities, approximately 50% relates to Wealth Management and approximately 10% relates to Investment Management.

An estimate of compensation expense associated with the Projected Future Compensation Obligation presented in the previous table is as follows:

Projected Future Compensation Expense

$ in millions	
Estimated to be recognized in:	
2020	**$ 1,169**
2021	**469**
Thereafter	**504**
Total[1]	**$ 2,142**

1. Amounts do not include assumptions regarding forfeitures, cancellations, accelerations or assumptions about future market conditions with respect to referenced investments.

Our projected future compensation obligation and expense for deferred cash-based compensation awards are forward-looking statements subject to uncertainty. Actual results may be materially affected by various factors, including, among other things: the performance of each participant's referenced investments; changes in market conditions; participants' allocation of their deferred awards; and participant forfeitures, cancellations, or accelerations. See "Forward-Looking Statements" and "Risk Factors" for additional information.

For further information on the Firm's deferred stock-based plans and carried interest compensation, which are excluded from the previous tables, see Notes 2 and 18 to the financial statements.

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 either determined to be not applicable or are not expected to have a significant impact on our financial statements.

The following accounting update was adopted on January 1, 2020:

- *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 replaces 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 and instead requires impairments on AFS securities 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.

  For certain portfolios, we have determined that there are no expected credit losses; for example, based on collateral arrangements for lending and financing transactions, such as Securities borrowed, Securities purchased under agreements to resell and certain other portfolios. Also, we have a zero loss expectation for certain financial assets based on the credit quality of the borrower or issuer, such as U.S. government and agency securities.

  At transition on January 1, 2020, the adoption of this accounting standard resulted in an increase in the allowance for credit losses of $131 million with a corresponding reduction in Retained earnings of $100 million, net of tax. The increase in the allowance for credit losses was primarily attributable to employee loans, commercial real estate loans and securities, and residential real estate loans, partially offset by a decrease primarily in secured lending facilities within corporate loans. Prior period amounts will not be restated.

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 certificates of deposit;
- Certain Securities sold under agreements to repurchase;
- Certain Other secured financings; and
- Certain Borrowings.

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, concentration risk and funding in order to arrive at fair value. For a further discussion of valuation adjustments that we apply, see Note 2 to the financial statements.

Goodwill and Intangible Assets

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. 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.

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 13 to the financial statements for additional information on legal contingencies.

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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 segment 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 the 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

	At December 31, 2019			
$ in millions	IS	WM	IM	Total
Assets				
Cash and cash equivalents[1]	$ 67,657	$ 14,247	$ 267	$ 82,171
Trading assets at fair value	293,477	47	3,586	297,110
Investment securities	38,524	67,201	—	105,725
Securities purchased under agreements to resell	80,744	7,480	—	88,224
Securities borrowed	106,199	350	—	106,549
Customer and other receivables	39,743	15,190	713	55,646
Loans, net of allowance[2]	50,557	80,075	5	130,637
Other assets[3]	14,300	13,092	1,975	29,367
Total assets	$ 691,201	$ 197,682	$ 6,546	$ 895,429

	At December 31, 2018			
$ in millions	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

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 8 to the financial statements).
3. Other assets primarily includes Goodwill and Intangible assets, premises, equipment and software, ROU assets related to leases, 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 increased to $895 billion at December 31, 2019 compared with $854 billion at December 31, 2018, driven by the Institutional Securities business segment. Within Institutional Securities, the primary increases were: Trading assets, primarily corporate equities in line with market conditions; Investment securities, primarily U.S. Treasuries; and continued Loan growth. These increases were partially offset by reduced Securities borrowed resulting from lower funding requirements. Wealth Management assets were lower primarily due to decreased Securities purchased under agreements to resell as a result of lower deposits in this segment, partially offset by continued Loan growth.

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 that support our target liquidity profile are the Required Liquidity Framework, Liquidity Stress Tests and the GLR.

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, 2019 and December 31, 2018, 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, 2019**	At December 31, 2018
Cash deposits with banks[1]	**$ 9,856**	$ 10,441
Cash deposits with central banks[1]	**34,922**	36,109
Unencumbered highly liquid securities:		
U.S. government obligations	**88,665**	119,138
U.S. agency and agency mortgage-backed securities	**50,054**	41,473
Non-U.S. sovereign obligations[2]	**31,460**	39,869
Other investment grade securities	**2,500**	2,705
Total	**$ 217,457**	$ 249,735

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

GLR Managed by Bank and Non-Bank Legal Entities

$ in millions	**At December 31, 2019**	At December 31, 2018	Average Daily Balance Three Months Ended **December 31, 2019**
Bank legal entities			
Domestic	**$ 75,565**	$ 88,809	**$ 73,107**
Foreign	**5,317**	4,896	**5,661**
Total Bank legal entities	**80,882**	93,705	**78,768**
Non-Bank legal entities			
Domestic:			
Parent Company	**53,042**	64,262	**58,955**
Non-Parent Company	**29,656**	40,936	**31,188**
Total Domestic	**82,698**	105,198	**90,143**
Foreign	**53,877**	50,832	**54,654**
Total Non-Bank legal entities	**136,575**	156,030	**144,797**
Total	**$ 217,457**	$ 249,735	**$ 223,565**

GLR may fluctuate from period to period based on the overall size and composition of our balance sheet, the maturity profile of our unsecured debt and estimates of funding needs in a stressed environment, among other factors.

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, with the primary difference being the treatment of certain cash balances and unencumbered securities.

As of December 31, 2019, we and our U.S. Bank Subsidiaries are compliant with the minimum required LCR of 100%.

HQLA by Type of Asset and LCR

$ in millions	Average Daily Balance Three Months Ended December 31, 2019	September 30, 2019
HQLA		
Cash deposits with central banks	$ **29,597**	$ 33,053
Securities[1]	**148,221**	141,806
Total	$ **177,818**	$ 174,859
LCR	**134%**	140%

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

The decrease in the LCR in the quarter ended December 31, 2019 is primarily due to higher outflows related to secured funding and lower inflows related to secured lending.

Net Stable Funding Ratio

The NSFR requires banking organizations to maintain sufficiently stable sources of funding over a one-year horizon. In 2016, the U.S. banking agencies issued a proposal to implement the NSFR in the U.S.; however, a final rule has not yet been issued. If adopted, the requirements would apply to us and our U.S. Bank Subsidiaries, and we expect to be in compliance by the effective date of any final rule.

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, 2019	At December 31, 2018
Securities purchased under agreements to resell and Securities borrowed	$ **194,773**	$ 214,835
Securities sold under agreements to repurchase and Securities loaned	$ **62,706**	$ 61,667
Securities received as collateral[1]	$ **13,022**	$ 7,668

$ in millions	Average Daily Balance Three Months Ended December 31, 2019	December 31, 2018
Securities purchased under agreements to resell and Securities borrowed	$ **210,257**	$ 213,974
Securities sold under agreements to repurchase and Securities loaned	$ **64,870**	$ 57,677

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

See "Total Assets by Business Segment" herein for more details on the assets shown in the previous table and Notes 2 and 7 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. We also hold related liquidity reserves.

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Unsecured Financing

We view deposits and borrowings as stable sources of funding for unencumbered securities and non-security assets. Our unsecured financings include borrowings and certificates of deposit carried at fair value, 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 typically use derivative products to conduct asset and liability management and to make adjustments to our interest rate and borrowings risk profile (see Notes 5 and 12 to the financial statements).

Deposits

$ in millions	**At December 31, 2019**	At December 31, 2018
Savings and demand deposits:		
Brokerage sweep deposits[1]	**$ 121,077**	$ 141,255
Savings and other	**28,388**	13,642
Total Savings and demand deposits	**149,465**	154,897
Time deposits	**40,891**	32,923
Total	**$ 190,356**	$ 187,820

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 increased in 2019, primarily driven by increases in preferred Savings and Time deposits. These were partially offset by a reduction in Brokerage sweep deposits due to net outflows into investment products and higher client tax payments.

Borrowings by Remaining Maturity at December 31, 2019[1]

$ in millions	Parent Company	Subsidiaries	Total
Original maturities of one year or less	**$ 500**	**$ 2,067**	**$ 2,567**
Original maturities greater than one year			
2020	**$ 15,228**	**$ 5,174**	**$ 20,402**
2021	**21,439**	**4,646**	**26,085**
2022	**16,084**	**3,804**	**19,888**
2023	**11,779**	**2,836**	**14,615**
2024	**15,388**	**5,718**	**21,106**
Thereafter	**67,377**	**20,587**	**87,964**
Total	**$ 147,295**	**$ 42,765**	**$ 190,060**
Total Borrowings	**$ 147,795**	**$ 44,832**	**$ 192,627**

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 $193 billion as of December 31, 2019 were relatively unchanged compared with $190 billion at December 31, 2018.

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 12 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 certain OTC derivative transactions. When determining credit ratings, rating agencies consider both company-specific and industry-wide factors. These include regulatory or legislative changes, the macroeconomic environment and perceived levels of support, among other things. See also "Risk Factors— Liquidity Risk."

Parent Company and U.S. Bank Subsidiaries' Issuer Ratings at February 19, 2020

	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**	**Positive**
Rating and Investment Information, Inc.	**a-1**	**A**	**Stable**
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**	**Positive**
S&P Global Ratings	**A-1**	**A+**	**Stable**

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

On February 21, 2020, Moody's Investors Service, Inc. placed the Parent Company and U.S. Bank Subsidiaries on review for possible upgrade, changing their outlooks from Positive to Ratings Under Review.

Incremental Collateral or Terminating Payments

In connection with certain OTC derivatives and 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 5 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 Repurchases

in millions, except for per share data	**2019**	2018	2017
Number of shares	**121**	97	80
Average price per share	**$ 44.23**	$ 50.08	$ 47.01
Total	**$ 5,360**	$ 4,860	$ 3,750

For further information on our common stock repurchases, see Note 16 to the financial statements.

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 16, 2020
Amount per share	$0.35
Date paid	February 14, 2020
Shareholders of record as of	January 31, 2020

Preferred Stock Dividend Announcement

Announcement date	December 16, 2019
Date paid	January 15, 2020
Shareholders of record as of	December 31, 2019

For additional information on common and preferred stock, see Note 16 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 14 to the financial statements.

For information on our commitments, obligations under certain guarantee arrangements and indemnities, see Note 13 to the financial statements. For further information on our lending commitments, see "Quantitative and Qualitative Disclosures about Risk—Credit Risk—Loans and Lending Commitments."

Contractual Obligations

	At December 31, 2019				
	Payments Due in:				
$ in millions	2020	2021-2022	2023-2024	Thereafter	Total
Borrowings[1]	**$ 20,402**	**$ 45,973**	**$ 35,721**	**$ 87,964**	**$ 190,060**
Other secured financings[1]	**1,663**	**1,337**	**2,667**	**813**	**6,480**
Contractual interest payments[2]	**4,252**	**6,872**	**5,128**	**14,541**	**30,793**
Time deposits—principal and interest payments	**20,762**	**14,082**	**5,708**	**622**	**41,174**
Operating leases — premises[3]	**763**	**1,349**	**1,117**	**2,845**	**6,074**
Purchase obligations[4]	**662**	**659**	**225**	**288**	**1,834**
Total[5]	**$ 48,504**	**$ 70,272**	**$ 50,566**	**$ 107,073**	**$ 276,415**

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 12 to the financial statements.
2. Amounts represent estimated future contractual interest payments related to certain unsecured borrowings with original maturities greater than one year based on applicable interest rates at December 31, 2019. These amounts exclude borrowings carried at fair value. For additional information on borrowings carried at fair value, see Note 12 to the financial statements.
3. For further information on operating leases covering premises and equipment, see Note 10 to the financial statements.
4. 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.
5. 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).

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. 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”). 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 15 to the financial statements.

Regulatory Capital Requirements

We are required to maintain minimum risk-based and leverage-based capital, and TLAC ratios. For additional information on TLAC, see “Total Loss-Absorbing Capacity, Long-Term Debt and Clean Holding Company Requirements” herein.

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). Capital standards require certain adjustments to, and deductions from, capital for purposes of determining these ratios.

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

- 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, the requirement for each of these buffers was 75% of the fully phased-in 2019 requirement noted above. 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).

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”) or (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, 2019 and 2018, our ratios for determining regulatory compliance are based on the Standardized Approach rules.

Leverage-Based Regulatory Capital. Minimum leverage-based capital requirements include a Tier 1 leverage ratio and an SLR. We are required to maintain a Tier 1 SLR of 5%, inclusive of an enhanced SLR capital buffer of at least 2%.

Regulatory Capital Ratios

	At December 31, 2019		
$ in millions	Required Ratio[1]	Standardized	Advanced
Risk-based capital			
Common Equity Tier 1 capital		**$ 64,751**	**$ 64,751**
Tier 1 capital		**73,443**	**73,443**
Total capital		**82,708**	**82,423**
Total RWA		**394,177**	**382,496**
Common Equity Tier 1 capital ratio	**10.0%**	**16.4%**	**16.9%**
Tier 1 capital ratio	**11.5%**	**18.6%**	**19.2%**
Total capital ratio	**13.5%**	**21.0%**	**21.5%**

$ in millions	Required Ratio[1]	**At December 31, 2019**
Leverage-based capital		
Adjusted average assets[2]		**$ 889,195**
Tier 1 leverage ratio	**4.0%**	**8.3%**
Supplementary leverage exposure[3]		**$ 1,155,177**
SLR	**5.0%**	**6.4%**

	At December 31, 2018		
$ in millions	Required Ratio[1]	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%

$ in millions	Required Ratio[1]	At December 31, 2018
Leverage-based capital		
Adjusted average assets[2]		$ 843,074
Tier 1 leverage ratio	4.0%	8.4%
Supplementary leverage exposure[3]		$ 1,092,672
SLR	5.0%	6.5%

1. Required ratios are inclusive of any buffers applicable as of the date presented. For 2018, the required regulatory capital ratios for risk-based capital are under the transitional rules. 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.
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 for the quarters ending on the respective balance sheet dates, reduced by disallowed goodwill, intangible assets, investments in covered funds, defined benefit pension plan assets, after-tax gain on sale from assets sold into securitizations, investments in our own capital instruments, certain deferred tax assets and other capital deductions.
3. Supplementary leverage exposure is the sum of Adjusted average assets used in the Tier 1 leverage ratio and other adjustments, primarily: (i) for derivatives, potential future exposure 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.

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Regulatory Capital

$ in millions		At December 31, 2019		At December 31, 2018		Change
Common Equity Tier 1 capital						
Common stock and surplus	$	**5,228**	$	9,843	$	**(4,615)**
Retained earnings		**70,589**		64,175		**6,414**
AOCI		**(2,788)**		(2,292)		**(496)**
Regulatory adjustments and deductions:						
Net goodwill		**(7,081)**		(6,661)		**(420)**
Net intangible assets		**(2,012)**		(2,158)		**146**
Other adjustments and deductions[1]		**815**		(821)		**1,636**
Total Common Equity Tier 1 capital	$	**64,751**	$	62,086	$	**2,665**
Additional Tier 1 capital						
Preferred stock	$	**8,520**	$	8,520	$	**—**
Noncontrolling interests		**607**		454		**153**
Additional Tier 1 capital	$	**9,127**	$	8,974	$	**153**
Deduction for investments in covered funds		**(435)**		(441)		**6**
Total Tier 1 capital	$	**73,443**	$	70,619	$	**2,824**
Standardized Tier 2 capital						
Subordinated debt	$	**8,538**	$	8,923	$	**(385)**
Noncontrolling interests		**143**		107		**36**
Eligible allowance for credit losses		**590**		440		**150**
Other adjustments and deductions		**(6)**		(37)		**31**
Total Standardized Tier 2 capital	$	**9,265**	$	9,433	$	**(168)**
Total Standardized capital	$	**82,708**	$	80,052	$	**2,656**
Advanced Tier 2 capital						
Subordinated debt	$	**8,538**	$	8,923	$	**(385)**
Noncontrolling interests		**143**		107		**36**
Eligible credit reserves		**305**		202		**103**
Other adjustments and deductions		**(6)**		(37)		**31**
Total Advanced Tier 2 capital	$	**8,980**	$	9,195	$	**(215)**
Total Advanced capital	$	**82,423**	$	79,814	$	**2,609**

1. Other adjustments and deductions used in the calculation of Common Equity Tier 1 capital primarily includes net after-tax DVA, the credit spread premium over risk-free rate for derivative liabilities, defined benefit pension plan assets, after-tax gain on sale from assets sold into securitizations, investments in our own capital instruments and certain deferred tax assets.

RWA Rollforward[1]

	2019			
$ in millions		Standardized		Advanced
Credit risk RWA				
Balance at December 31, 2018	$	305,531	$	190,595
Change related to the following items:				
Derivatives		**7,526**		**17,008**
Securities financing transactions		**10,631**		**(844)**
Securitizations		**469**		**722**
Investment securities		**2,115**		**5,217**
Commitments, guarantees and loans		**12,423**		**11,859**
Cash		**(753)**		**(141)**
Equity investments		**2,352**		**2,484**
Other credit risk[2]		**2,390**		**2,027**
Total change in credit risk RWA	**$**	**37,153**	**$**	**38,332**
Balance at December 31, 2019	**$**	**342,684**	**$**	**228,927**
Market risk RWA				
Balance at December 31, 2018	$	61,778	$	61,857
Change related to the following items:				
Regulatory VaR		**(1,100)**		**(1,100)**
Regulatory stressed VaR		**(6,947)**		**(6,947)**
Incremental risk charge		**(6,125)**		**(6,125)**
Comprehensive risk measure		**(243)**		**(218)**
Specific risk:				
Non-securitizations		**1,609**		**1,609**
Securitizations		**2,521**		**2,521**
Total change in market risk RWA	**$**	**(10,285)**	**$**	**(10,260)**
Balance at December 31, 2019	**$**	**51,493**	**$**	**51,597**
Operational risk RWA				
Balance at December 31, 2018		N/A	$	110,602
Change in operational risk RWA		**N/A**		**(8,630)**
Balance at December 31, 2019		**N/A**	**$**	**101,972**
Total RWA	**$**	**394,177**	**$**	**382,496**

Regulatory VaR—VaR for regulatory capital requirements
1. The RWA for each category reflects both on- and off-balance sheet exposures, where appropriate.
2. Amounts reflect assets not in a defined category, non-material portfolios of exposures and unsettled transactions, as applicable.

Credit risk RWA increased in 2019 under the Standardized and Advanced Approaches primarily due to increased exposures in lending commitments, Derivatives and Investment securities, as well as an increase in Other credit risk driven by the Firm's adoption of the *Leases* accounting update on January 1, 2019. RWA under the Standardized Approach also increased due to higher exposures for Securities financing transactions, while under the Advanced Approach, in Derivatives, increased exposure also led to increased RWA related to CVA.

Market risk RWA decreased in 2019 under the Standardized and Advanced Approaches, primarily due to a decrease in Stressed VaR driven by reduced equity and interest rate risk, and a decrease in the Incremental risk charge, mainly as a result of the improved alignment of hedges and reduced exposures in credit products.

The decrease in operational risk RWA under the Advanced Approach in 2019 reflects a continued reduction in the magnitude and frequency of internal losses utilized in the operational risk capital model related to litigation.

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, complexity and substitutability, 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 December 31, 2019, our fully phased-in G-SIB surcharge is 3%. In 2018, the requirement was based on a phase-in amount of 75% 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 are designed to ensure that covered BHCs 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").

These TLAC and eligible LTD requirements include various 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 contain certain embedded features, such as a principal or redemption amount subject to reduction based on the performance of an asset, entity or index, or a similar feature. In addition, the requirements provide 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.

A covered BHC is also required to maintain minimum external TLAC equal to the greater of (i) 18% of total RWA or (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 or Method 2 G-SIB capital surcharge applicable to the Parent Company, or (ii) 4.5% of its total leverage exposure.

Required and Actual TLAC and Eligible LTD Ratios

	At December 31, 2019		
$ in millions	Regulatory Minimum	Required Ratio[1]	Actual Amount/Ratio
External TLAC[2]			$ 196,888
External TLAC as a % of RWA	18.0%	21.5%	49.9%
External TLAC as a % of leverage exposure	7.5%	9.5%	17.0%
Eligible LTD[3]			$ 113,624
Eligible LTD as a % of RWA	9.0%	9.0%	28.8%
Eligible LTD as a % of leverage exposure	4.5%	4.5%	9.8%

1. Required ratios are inclusive of applicable buffers. 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 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.
2. External TLAC consists of Common Equity Tier 1 capital and Additional Tier 1 capital (each excluding any noncontrolling minority interests), as well as eligible LTD.
3. Consists of TLAC-eligible LTD reduced by 50% for amounts of unpaid principal due to be paid in more than one year but less than two years from December 31, 2019.

Furthermore, under the clean holding company requirements of the final rule, a covered BHC is prohibited from incurring any external debt with an original maturity of less than one year 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 those with certain embedded features noted above, are subject to a cap equal to 5% of the covered BHC's outstanding external TLAC amount. We are in compliance with all relevant TLAC requirements as of December 31, 2019.

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 annual 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. As banks with less than $250 billion of total assets, our U.S. Bank Subsidiaries are not subject to company-run stress-test regulatory requirements.

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 any requirements that may be phased in over the planning horizon, and how we will 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 a capital plan that has not been objected to, the BHC must seek the non-objection 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.

We submitted our 2019 Capital Plan ("Capital Plan") and company-run stress test results to the Federal Reserve on April 5, 2019. On June 21, 2019, the Federal Reserve published summary results of the Dodd-Frank Act supervisory stress tests of each large BHC, including us. On June 27, 2019, the Federal Reserve published summary results of CCAR and announced it did not object to our 2019 Capital Plan. Our 2019 Capital Plan includes the repurchase of up to $6.0 billion of outstanding common stock for the period beginning July 1, 2019 through June 30, 2020, and an increase in our quarterly common stock dividend to $0.35 per share from $0.30 per share, beginning with the common stock dividend announced on July 18, 2019. We disclosed a summary of the results of our company-run stress tests on June 21, 2019 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 28, 2019 disclosed a summary of the results on our Investor Relations webpage.

For the 2020 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, 2020. 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, 2020. 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.

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. 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). 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 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	**2019**	2018	2017
Institutional Securities	$ **40.4**	$ 40.8	$ 40.2
Wealth Management	**18.2**	16.8	17.2
Investment Management	**2.5**	2.6	2.4
Parent	**11.6**	9.8	10.0
Total	$ **72.7**	$ 70.0	$ 69.8

1. The attribution of average common equity to the business segments 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. We submitted our 2019 resolution plan on June 28, 2019.

Our preferred resolution strategy is an SPOE strategy. In line with our SPOE strategy, the Parent Company has transferred, and has agreed to transfer on an ongoing basis, certain assets to its wholly owned, direct subsidiary Morgan Stanley Holdings LLC (the "Funding IHC"). In addition, the Parent Company has entered into an amended and restated support agreement with its material entities (including the Funding IHC) and certain other subsidiaries. In the event of a resolution scenario, the Parent Company would be obligated to contribute all of its Contributable Assets to the material entities and/or the Funding IHC. The Funding IHC would be obligated to provide capital and liquidity, as applicable, to the material entities.

The obligations of the Parent Company and the Funding IHC under the 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 and certain other assets), and the assets of the Funding IHC. As a result, claims of our material entities, including the Funding IHC, with respect to the secured assets, are effectively senior to unsecured obligations of the Parent Company.

In December 2019, we received joint feedback on our 2019 resolution plan from the Federal Reserve and the FDIC. The feedback confirmed that there are no deficiencies in our 2019 resolution plan and that we had successfully addressed a prior shortcoming identified by the agencies in the review of our 2017 resolution plan. The agencies noted one shortcoming in our 2019 resolution plan related to certain mechanisms intended to facilitate our SPOE strategy which must be addressed prior to our next resolution plan submission in 2021.

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 Rule to Amend the Covered Fund Provisions of the Volcker Rule

The Federal financial regulatory agencies responsible for the Volcker Rule's implementing regulations have proposed a rule that would revise the prohibition on certain investments by banking entities with defined covered funds. The proposed rule would add certain new exclusions from the definition of covered fund, while streamlining others. It would also simplify certain restrictions on inter-affiliate relationships with covered funds.

Final Rule on Standardized Approach for Counterparty Credit Risk

The U.S. banking agencies have issued a final rule 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. SA-CCR replaces the current exposure method, on a mandatory basis, in our and our U.S. Bank Subsidiaries' Standardized Approach RWA, Supplementary Leverage Ratio exposure calculations, and in all central counterparty default fund contribution calculations in the regulatory capital framework. SA-CCR is 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 final rule requires us and our U.S. Bank Subsidiaries to implement SA-CCR by January 1, 2022, with early adoption permitted.

Proposed Revisions to the Regulatory Capital Treatment for Investments in Certain Unsecured Debt Instruments Issued by G-SIBs

The Federal Reserve, the OCC and the FDIC have issued a proposed rule that would, among other things, modify the regulatory capital framework for Advanced Approach banking organizations, including us. Such firms would be required to make certain deductions from regulatory capital for their investments in certain unsecured debt instruments (including eligible LTD in the TLAC framework) issued by the Parent Company and other G-SIBs.

Proposed Stress Buffer Requirements

The Federal Reserve issued a proposal in 2018 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%. 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 or (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.

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 current 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 current 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.

Other Matters

U.K. Withdrawal from the E.U.

On January 31, 2020, the U.K. withdrew from the E.U. under the terms of a withdrawal agreement between the U.K. and the E.U. The withdrawal agreement provides for a transition period to the end of December 2020, during which time the U.K. will continue to apply E.U. law as if it were a member state, and U.K. firms' rights to provide financial services in E.U. member states will continue. Access to the E.U. market after the transition period remains subject to negotiation.

We have prepared the structure of our European operations for a range of potential outcomes, including for the possibility that U.K. financial firms' access to E.U. markets after the transition period is limited, and we expect to be able to continue to serve our clients and customers under each of these potential outcomes.

For more information on the U.K.'s withdrawal from the E.U., our related preparations and the potential impact 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—Country and Other Risks."

Planned 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 committees and working groups of market participants and official sector representatives to replace LIBOR and replace or reform other interest rate benchmarks (collectively, the "IBORs").

Accordingly, we have established and are undertaking a Firmwide IBOR transition plan to promote the transition to alternative reference rates, which takes into account the considerable uncertainty regarding the availability of LIBOR beyond 2021. Our transition plan includes a number of key steps, including continued engagement with central bank and industry working groups and regulators (including participation and leadership on key committees), active client engagement, internal operational readiness, and risk management, among other things. Our transition plan is overseen by a global steering committee, with senior management oversight. As part of our Firmwide initiative, we are identifying, assessing and monitoring risks associated with the expected discontinuation or unavailability of one or more of the IBORs.

We are a party to a significant number of IBOR-linked contracts, many of which extend beyond 2021, comprising derivatives, securitizations and floating rate notes, loans and mortgages. Our review of these contracts includes assessing the impact of applicable fallbacks and any amendments that may be warranted or appropriate. We are also taking steps to update operational processes (including to support alternative reference rates), models, and associated infrastructure, as well as planning for certain client outreach to amend fallbacks or seek voluntary conversions of outstanding IBOR products where practicable.

In addition, as part of the transition to alternative reference rates, we are making markets in products linked to such rates, including SOFR, the alternative rate to U.S. dollar LIBOR selected by the Alternative Reference Rates Committee convened by the Federal Reserve Board and the Federal Reserve Bank of New York, and also began issuing debt linked to SOFR.

For a further discussion of the expected replacement of the IBORs and/or reform of interest rate benchmarks, and the related risks and our transition plan, see "Risk Factors—Legal, Regulatory and Compliance Risk."

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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.

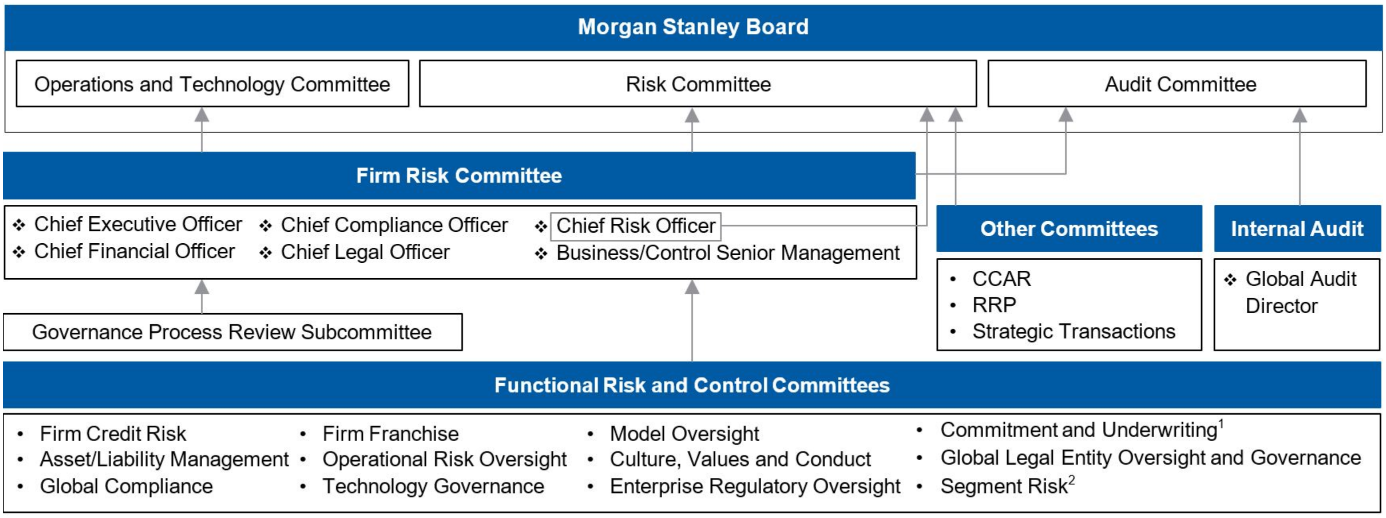
We have policies and procedures in place to identify, measure, monitor, advise, challenge and control the principal risks involved in the activities of the Institutional Securities, Wealth Management and Investment Management business segments, as well as at the Parent Company level. The principal risks involved in our business activities include market (including non-trading risks), 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 interests 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 following chart and also includes risk managers, committees, and groups within and across 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.



RRP—Resolution and Recovery Planning

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, model and liquidity 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 capital planning process; 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 RRP Committee; reviews new product risk, emerging risks and regulatory matters; and reviews the Internal Audit Department reports on the assessment of the risk management, liquidity and capital functions. The BRC reports to the 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 Audit Committee of the Board ("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, the BRC, and the Operations and Technology Committee of the Board ("BOTC"); 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 Board on a regular basis.

Operations and Technology Committee of the Board

The BOTC oversees our operations and technology strategy and significant investments in support of such strategy; operations, technology and operational risk, including information security, fraud, vendor, data protection, business continuity and cybersecurity risks, and the steps management has taken to monitor and control such exposures; and risk management and risk assessment guidelines in coordination with the Board, BRC and BAC, and policies regarding operations, technology and operational risk. The BOTC reports to the 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; 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 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" herein.

Support and Control Groups

Our support and control groups include the Legal and Compliance Division, the Finance Division, Technology Division, Operations Division, the Human Resources Department, Corporate Services and Firm Resilience. 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 our 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 Firmwide 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 business segment's 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 2019, 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 Firmwide 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.

Beginning July 1, 2019, we estimate VaR using a model based on a one-year equal weighted historical simulation for general market risk factors and name-specific risk in corporate shares and related derivatives, and Monte Carlo simulation for name-specific risk in 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.

Prior to July 1, 2019, our VaR model used 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

	2019			
$ in millions	Period End	Average	High[2]	Low[2]
Interest rate and credit spread	**$ 26**	**$ 29**	**$ 43**	**$ 24**
Equity price	**11**	**15**	**22**	**11**
Foreign exchange rate	**10**	**13**	**20**	**6**
Commodity price	**10**	**14**	**22**	**10**
Less: Diversification benefit[1]	**(27)**	**(35)**	**N/A**	**N/A**
Primary Risk Categories	**$ 30**	**$ 36**	**$ 47**	**$ 30**
Credit Portfolio	**15**	**16**	**19**	**13**
Less: Diversification benefit[1]	**(10)**	**(11)**	**N/A**	**N/A**
Total Management VaR	**$ 35**	**$ 41**	**$ 51**	**$ 33**

	2018[3]			
$ in millions	Period End	Average	High[2]	Low[2]
Interest rate and credit spread	$ 44	$ 34	$ 53	$ 25
Equity price	12	14	18	9
Foreign exchange rate	11	10	16	6
Commodity price	13	10	18	6
Less: Diversification benefit[1]	(27)	(29)	N/A	N/A
Primary Risk Categories	$ 53	$ 39	$ 64	$ 31
Credit Portfolio	14	11	16	8
Less: Diversification benefit[1]	(12)	(8)	N/A	N/A
Total Management VaR	$ 55	$ 42	$ 62	$ 34

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.
3. 2018 amounts have been revised to present the results of the new VaR model, in conformance with the 2019 presentation. The difference between the VaR measures produced by the new and old models was not significant.

Average total Management VaR remained relatively unchanged from 2018. Average Management VaR for the Primary Risk Categories decreased from 2018 as reduced interest rate and credit spread risk was offset by increased Commodity and Foreign Exchange risk within the Fixed Income Division.

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.

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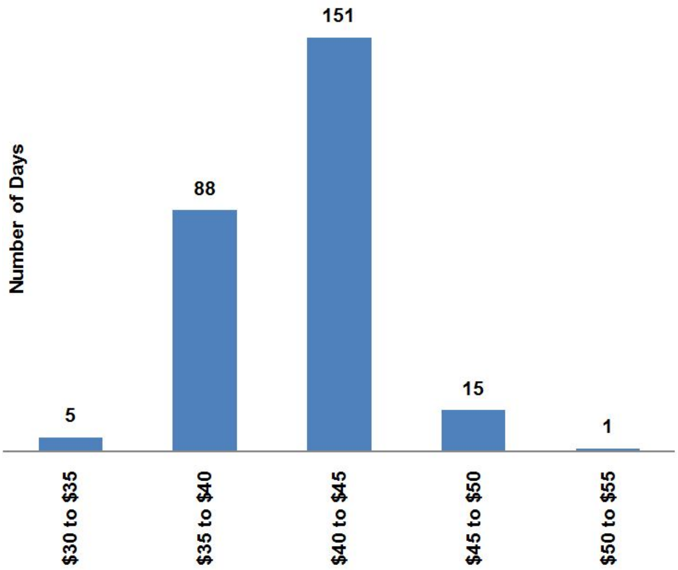
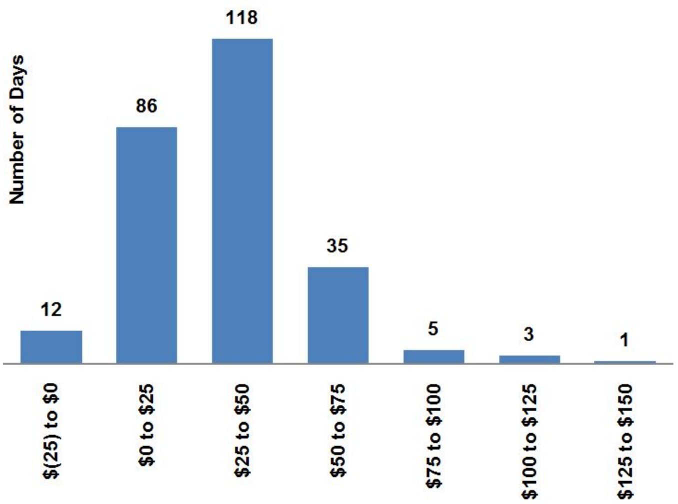
We evaluate the reasonableness of our VaR model by comparing the potential declines in portfolio values generated by the model with corresponding actual trading results for the Firm, as well as individual business units. For days where losses exceed the VaR statistic, we examine the drivers of trading losses to evaluate the VaR model's accuracy relative to realized trading results. There were no days in 2019 on which trading losses exceeded VaR.

Daily 95%/One-Day Total Management VaR for 2019
($ in millions)



Daily Net Trading Revenues for 2019
($ in millions)



The previous histogram shows the distribution of daily net trading revenues for 2019. 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, 2019**	At December 31, 2018
Derivatives	**$ 6**	$ 6
Funding liabilities[2]	**42**	34

1. Amounts represent the potential gain for each 1 bps widening of our credit spread.
2. Relates to Borrowings carried at fair value.

Credit spread risk sensitivity for funding liabilities as of December 31, 2019 has increased compared with December 31, 2018, primarily as a result of new issuances of Borrowings carried at fair value 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, 2019**	At December 31, 2018
Basis point change		
+100	**$ 151**	$ 182
-100	**(642)**	(428)

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, 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, 2019 and December 31, 2018 is primarily driven by lower market rates and changes in our asset-liability profile.

Investments Sensitivity, Including Related Performance Fees

	Loss from 10% Decline	
$ in millions	**At December 31, 2019**	At December 31, 2018
Investments related to Investment Management activities	**$ 367**	$ 298
Other investments:		
MUMSS	**169**	165
Other Firm investments	**195**	179

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-based fees, as applicable. The change in investments sensitivity related to Investment Management activities between December 31, 2019 and December 31, 2018 is primarily driven by higher unrealized carried interest and investment gains, primarily from an Asia private equity fund.

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 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 loans and 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;
- single-family residential mortgage loans in conforming, non-conforming or HELOC form, primarily to existing Wealth Management clients; and
- employee loans granted primarily to recruit certain Wealth Management representatives.

Monitoring and Control

In order to help protect us from losses, the Credit Risk Management Department ("CRM") establishes Firmwide 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 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. Securities-based loans are evaluated based on factors that include, but are not limited to, the amount of the loan and the amount, 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 debt-to-income ratio, net worth, liquidity, collateral, loan-to-value ratio and industry standard credit scoring models (*e.g.*, FICO scores). 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 8 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 exposures. 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 7 to the financial statements for additional information about our collateralized transactions.

Loans and Lending Commitments

	At December 31, 2019			
$ in millions	IS	WM	IM[1]	Total
Corporate	$ 30,431	$ 18,320	$ 5	$ 48,756
Consumer	—	31,610	—	31,610
Residential real estate	—	30,184	—	30,184
Commercial real estate	7,859	—	—	7,859
Loans held for investment, gross of allowance	38,290	80,114	5	118,409
Allowance for loan losses	(297)	(52)	—	(349)
Loans held for investment, net of allowance	37,993	80,062	5	118,060
Corporate	10,515	—	—	10,515
Residential real estate	—	13	—	13
Commercial real estate	2,049	—	—	2,049
Loans held for sale	12,564	13	—	12,577
Corporate	7,785	—	251	8,036
Residential real estate	1,192	—	—	1,192
Commercial real estate	2,098	—	—	2,098
Loans held at fair value	11,075	—	251	11,326
Total loans	61,632	80,075	256	141,963
Lending commitments[2]	106,886	13,161	21	120,068
Total loans and lending commitments[2]	$ 168,518	$ 93,236	$ 277	$ 262,031

$ in millions	At December 31, 2018 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
Commercial real estate[3]	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
Commercial real estate[3]	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
Commercial real estate[3]	601	—	—	601
Loans held at fair value	10,904	—	21	10,925
Total loans	54,284	72,194	26	126,504
Lending commitments[2]	95,065	10,663	—	105,728
Total loans and lending commitments[2]	$ 149,349	$ 82,857	$ 26	$ 232,232

1. Investment Management business segment loans are related to certain of our activities as an investment advisor and manager. At December 31, 2019, loans held at fair value are the result of the consolidation of a CLO, managed by Investment Management, composed primarily of senior secured corporate loans.
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. Beginning in 2019, loans previously referred to as Wholesale real estate are referred to as Commercial real estate.

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. Loans and lending commitments are either held for investment, held for sale or carried at fair value. For more information on these loan classifications, see Note 2 to the financial statements. In 2019, total loans and lending commitments increased by approximately $30 billion, primarily in Corporate within the Institutional Securities business segment due to growth in secured lending facilities and increases in event-driven lending commitments. Also contributing to the increase was growth in Consumer securities-based lending, Residential real estate loans and tailored lending within the Wealth Management business segment.

See Notes 3, 4, 8 and 13 to the financial statements for further information.

Allowance for Loans and Lending Commitments Held for Investment

$ in millions	**At December 31, 2019**	At December 31, 2018
Loans	**$ 349**	$ 238
Lending commitments	**241**	203
Total allowance for loans and lending commitments	**$ 590**	$ 441

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.

The aggregate allowance for loans and lending commitment losses increased during 2019, primarily within the Institutional Securities business segment due to loan and lending commitment growth, deterioration of select credits and certain environmental factors. See Notes 8 and 13 to the financial statements for further information.

Status of Loans Held for Investment

	At December 31, 2019		At December 31, 2018	
	IS	WM	IS	WM
Current	**99.0%**	**99.9%**	99.8%	99.9%
Nonaccrual[1]	**1.0%**	**0.1%**	0.2%	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 Loans and Lending Commitments[1]

	At December 31, 2019				
	Contractual Years to Maturity				
$ in millions	Less than 1	1-3	3-5	Over 5	Total
Loans					
AA	**$ 7**	**$ 50**	**$ —**	**$ 5**	**$ 62**
A	**955**	**923**	**516**	**277**	**2,671**
BBB	**2,297**	**5,589**	**3,592**	**949**	**12,427**
NIG	**13,051**	**16,824**	**12,047**	**2,592**	**44,514**
Unrated[2]	**117**	**82**	**131**	**1,628**	**1,958**
Total loans	**16,427**	**23,468**	**16,286**	**5,451**	**61,632**
Lending commitments					
AAA	**—**	**50**	**—**	**—**	**50**
AA	**2,838**	**908**	**2,509**	**—**	**6,255**
A	**6,461**	**7,287**	**9,371**	**298**	**23,417**
BBB	**7,548**	**13,780**	**20,560**	**753**	**42,641**
NIG	**4,657**	**10,351**	**15,395**	**3,997**	**34,400**
Unrated[2]	**—**	**9**	**107**	**7**	**123**
Total lending commitments	**21,504**	**32,385**	**47,942**	**5,055**	**106,886**
Total exposure	**$ 37,931**	**$ 55,853**	**$ 64,228**	**$ 10,506**	**$ 168,518**

$ in millions	At December 31, 2018 Contractual Years to Maturity 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

NIG–Non-investment grade
1. Counterparty 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—Market Risk" herein.

Institutional Securities Loans and Lending Commitments by Industry

$ in millions	**At December 31, 2019**	At December 31, 2018
Financials	**$ 40,992**	$ 32,655
Real estate	**28,348**	24,133
Healthcare	**14,113**	10,158
Industrials	**13,136**	13,701
Communications services	**12,165**	11,244
Utilities	**9,905**	9,856
Consumer staples	**9,724**	7,921
Consumer discretionary	**9,589**	8,314
Energy	**9,461**	9,847
Information technology	**9,201**	9,896
Materials	**5,577**	5,969
Insurance	**3,755**	3,744
Other	**2,552**	1,911
Total	**$ 168,518**	$ 149,349

The principal Institutional Securities business segment lending activities include Corporate and Commercial real estate loans. 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 extend short- and long-term secured lending facilities 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 overcollateralization. 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 and/or a decline in the underlying collateral value. The Firm monitors collateral levels against the requirements of lending agreements. In addition, we participate in securitization activities whereby we transfer certain loans, primarily Commercial real estate, to an SPE, which in turn securitizes the loans. See Note 14 to the financial statements for information about our securitization activities.

Institutional Securities Corporate Loans[1]

$ in millions	**At December 31, 2019**	At December 31, 2018
Corporate relationship and event-driven lending[2]	**$ 11,638**	$ 13,317
Secured lending facilities[3]	**29,654**	21,408
Securities-based lending and other[4]	**7,439**	8,331
Total Corporate	**$ 48,731**	$ 43,056

1. Amounts include loans held for investment, gross of allowance, loans held for sale and loans measured at fair value. Loans at fair value are included in Trading assets in the balance sheets.
2. Relationship and event-driven loans typically consist of revolving lines of credit, term loans and bridge loans. For additional information on event-driven loans, see "Institutional Securities Event-Driven Loans and Lending Commitments" herein.
3. Secured lending facilities includes loans provided to clients to warehouse loans secured by underlying real estate and other assets.
4. Securities-based lending and other includes financing extended to sales and trading customers and corporate loans purchased in the secondary market.

Institutional Securities Event-Driven Loans and Lending Commitments

$ in millions	**At December 31, 2019** Contractual Years to Maturity Less than 1	1-3	3-5	Over 5	Total
Loans	**$ 1,194**	**$ 1,024**	**$ 839**	**$ 390**	**$ 3,447**
Lending commitments	**7,921**	**5,012**	**2,285**	**3,090**	**18,308**
Total loans and lending commitments	**$ 9,115**	**$ 6,036**	**$ 3,124**	**$ 3,480**	**$ 21,755**

$ in millions	At December 31, 2018 Contractual 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

Event-driven loans and lending commitments, which comprise a portion of corporate loans and lending commitments, are associated with a particular event or transaction, such as to support client merger, acquisition, recapitalization or project finance activities. Balances may fluctuate as such lending is related to transactions that vary in timing and size from period to period.

Wealth Management Loans and Lending Commitments

	At December 31, 2019				
	Contractual Years to Maturity				
$ in millions	Less than 1	1-3	3-5	Over 5	Total
Securities-based lending and other loans	**$ 41,863**	**$ 3,972**	**$ 2,783**	**$ 1,284**	**$ 49,902**
Residential real estate loans	**13**	**11**	**—**	**30,149**	**30,173**
Total loans	**$ 41,876**	**$ 3,983**	**$ 2,783**	**$ 31,433**	**$ 80,075**
Lending commitments	**10,219**	**2,564**	**71**	**307**	**13,161**
Total loans and lending commitments	**$ 52,095**	**$ 6,547**	**$ 2,854**	**$ 31,740**	**$ 93,236**

	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

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

Securities-based lending allows clients 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-to-income 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 loans, including HELOCs, are held for investment in the Wealth Management business segment's loan portfolio.

In 2019, Loans and Lending commitments associated with the Wealth Management business segment increased by approximately 13%, primarily due to growth in Securities-based lending, Residential real estate loans, and tailored lending.

Customer and Other Receivables

Margin Loans

	At December 31, 2019		
$ in millions	IS	WM	Total
Customer receivables representing margin loans	**$ 22,216**	**$ 9,700**	**$ 31,916**

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

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, 2019**	At December 31, 2018
Balance	**$ 2,980**	$ 3,415
Allowance for loan losses	**(61)**	(63)
Balance, net	**$ 2,919**	$ 3,352
Remaining repayment term, weighted average in years	**4.8**	4.3

In 2019, the balance of employee loans decreased as a result of the roll-off of certain acquisition-related employee retention loans and repayments, partially offset by new note issuances. Employee loans are granted in conjunction with a program established primarily to recruit certain Wealth Management representatives, are full recourse and generally require periodic repayments. We establish an allowance for loan amounts we do not consider recoverable, and the related provision is recorded in Compensation and benefits expense.

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Derivatives

Fair Value of OTC Derivative Assets

$ in millions	Counterparty Credit Rating[1] AAA	AA	A	BBB	NIG	Total
At December 31, 2019						
<1 year	**$ 371**	**$ 9,195**	**$ 31,789**	**$ 22,757**	**$ 6,328**	**$ 70,440**
1-3 years	**378**	**5,150**	**17,707**	**11,495**	**9,016**	**43,746**
3-5 years	**502**	**4,448**	**9,903**	**6,881**	**3,421**	**25,155**
Over 5 years	**3,689**	**24,675**	**70,765**	**40,542**	**14,587**	**154,258**
Total, gross	**$ 4,940**	**$ 43,468**	**$ 130,164**	**$ 81,675**	**$ 33,352**	**$ 293,599**
Counterparty netting	**(2,172)**	**(33,521)**	**(103,452)**	**(62,345)**	**(19,514)**	**(221,004)**
Cash and securities collateral	**(2,641)**	**(8,134)**	**(22,319)**	**(14,570)**	**(10,475)**	**(58,139)**
Total, net	**$ 127**	**$ 1,813**	**$ 4,393**	**$ 4,760**	**$ 3,363**	**$ 14,456**

$ in millions	Counterparty Credit Rating[1] 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

$ in millions	**At December 31, 2019**	At December 31, 2018
Industry		
Utilities	**$ 4,275**	$ 4,324
Financials	**3,448**	4,480
Healthcare	**991**	787
Industrials	**914**	1,335
Regional governments	**791**	779
Information technology	**659**	695
Not-for-profit organizations	**657**	583
Energy	**524**	199
Sovereign governments	**403**	385
Communications services	**381**	373
Consumer discretionary	**370**	188
Materials	**325**	275
Real estate	**315**	283
Insurance	**214**	235
Consumer staples	**129**	216
Other	**60**	116
Total	**$ 14,456**	$ 15,253

1. Counterparty credit ratings are determined internally by CRM.

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 restructuring.

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 5 to the financial statements.

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.

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.

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. Each reference entity within an index is allocated to that reference entity's country of risk. Index exposures are allocated to the underlying reference entities in proportion to the notional weighting 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 an issuer 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 issuer. 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, 2019

United Kingdom

$ in millions	Sovereigns	Non-sovereigns	Total
Net inventory[1]	$ (1,106)	$ 1,958	$ 852
Net counterparty exposure[2]	—	10,583	10,583
Loans	—	2,845	2,845
Lending commitments	—	5,452	5,452
Exposure before hedges	(1,106)	20,838	19,732
Hedges[3]	(312)	(1,350)	(1,662)
Net exposure	$ (1,418)	$ 19,488	$ 18,070

Japan

$ in millions	Sovereigns	Non-sovereigns	Total
Net inventory[1]	$ 2,175	$ 776	$ 2,951
Net counterparty exposure[2]	26	3,657	3,683
Loans	—	730	730
Lending commitments	—	2	2
Exposure before hedges	2,201	5,165	7,366
Hedges[3]	(93)	(131)	(224)
Net exposure	$ 2,108	$ 5,034	$ 7,142

Germany

$ in millions	Sovereigns	Non-sovereigns	Total
Net inventory[1]	$ (352)	$ 228	$ (124)
Net counterparty exposure[2]	100	2,383	2,483
Loans	—	1,610	1,610
Lending commitments	—	3,685	3,685
Exposure before hedges	(252)	7,906	7,654
Hedges[3]	(230)	(869)	(1,099)
Net exposure	$ (482)	$ 7,037	$ 6,555

Spain

$ in millions	Sovereigns	Non-sovereigns	Total
Net inventory[1]	$ 182	$ (80)	$ 102
Net counterparty exposure[2]	—	270	270
Loans	—	3,828	3,828
Lending commitments	—	745	745
Exposure before hedges	182	4,763	4,945
Hedges[3]	—	(137)	(137)
Net exposure	$ 182	$ 4,626	$ 4,808

China

$ in millions	Sovereigns	Non-sovereigns	Total
Net inventory[1]	$ (637)	$ 1,007	$ 370
Net counterparty exposure[2]	47	200	247
Loans	—	1,950	1,950
Lending commitments	—	1,716	1,716
Exposure before hedges	(590)	4,873	4,283
Hedges[3]	(82)	(80)	(162)
Net exposure	$ (672)	$ 4,793	$ 4,121

France

$ in millions	Sovereigns	Non-sovereigns	Total
Net inventory[1]	$ (1,720)	$ 181	$ (1,539)
Net counterparty exposure[2]	—	2,070	2,070
Loans	—	620	620
Lending commitments	—	3,375	3,375
Exposure before hedges	(1,720)	6,246	4,526
Hedges[3]	(6)	(600)	(606)
Net exposure	$ (1,726)	$ 5,646	$ 3,920

Canada

$ in millions	Sovereigns	Non-sovereigns	Total
Net inventory[1]	$ (490)	$ 236	$ (254)
Net counterparty exposure[2]	109	2,000	2,109
Loans	—	182	182
Lending commitments	—	1,439	1,439
Exposure before hedges	(381)	3,857	3,476
Hedges[3]	—	(152)	(152)
Net exposure	$ (381)	$ 3,705	$ 3,324

Netherlands

$ in millions	Sovereigns	Non-sovereigns	Total
Net inventory[1]	$ 46	$ 545	$ 591
Net counterparty exposure[2]	—	748	748
Loans	—	946	946
Lending commitments	—	1,103	1,103
Exposure before hedges	46	3,342	3,388
Hedges[3]	(32)	(158)	(190)
Net exposure	$ 14	$ 3,184	$ 3,198

Australia

$ in millions	Sovereigns	Non-sovereigns	Total
Net inventory[1]	$ 761	$ 293	$ 1,054
Net counterparty exposure[2]	17	632	649
Loans	—	291	291
Lending commitments	—	978	978
Exposure before hedges	778	2,194	2,972
Hedges[3]	—	(103)	(103)
Net exposure	$ 778	$ 2,091	$ 2,869

India

$ in millions	Sovereigns	Non-sovereigns	Total
Net inventory[1]	$ 1,273	$ 556	$ 1,829
Net counterparty exposure[2]	—	518	518
Loans	—	247	247
Exposure before hedges	1,273	1,321	2,594
Net exposure	$ 1,273	$ 1,321	$ 2,594

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 (*e.g.,* repurchase transactions, securities lending and OTC derivatives) is net of the benefit of collateral received and also is net by counterparty when legally enforceable master netting agreements are in place. For more information, see "Additional Information—Top 10 Non-U.S. Country Exposures" herein.
3. Amounts represent net 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 further description of the contractual terms for purchased credit protection and whether they may limit the effectiveness of our hedges, see "Quantitative and Qualitative Disclosures about Risk—Credit Risk—Derivatives" herein.

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

Collateral Held against Net Counterparty Exposure[1]

$ in millions		At December 31, 2019
Counterparty credit exposure	**Collateral[2]**	
Germany	Italy and Germany	$ 11,478
United Kingdom	U.K., U.S. and Spain	9,374
Other	Japan, U.S. and France	17,312

1. The benefit of collateral received is reflected in the Top 10 Non-U.S. Country Exposures at December 31, 2019.
2. Collateral primarily consists of cash and government obligations.

Country Risk Exposures Related to the U.K.

At December 31, 2019, our country risk exposures in the U.K. included net exposures of $18,070 million (as shown in the Top 10 Non-U.S. Country Exposures table) and overnight deposits of $6,378 million. The $19,488 million of exposures to non-sovereigns were diversified across both names and sectors and include $6,804 million to U.K.-focused counterparties that generate more than one-third of their revenues in the U.K., $4,817 million to geographically diversified counterparties, and $5,946 million to exchanges and clearinghouses.

In addition to our country risk exposure, we disclose our cross-border risk exposure in "Financial Statements and Supplementary Data—Financial Data Supplement (Unaudited)."

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 own, our client and our 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 our risk during a business continuity event. A business continuity event is an interruption with potential impact to normal business activity of our 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, our business units 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 our operations during business continuity events. Disaster recovery plans supporting business continuity are in place for critical technology assets and systems 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 our 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 defined as 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 Firmwide model inventory.

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 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.

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Financial Statements and Supplementary Data

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholders and the 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, 2019 and 2018, 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, 2019, 2018, and 2017, 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, 2019 and 2018, and the results of its operations and its cash flows for each of the three years ended December 31, 2019, 2018, and 2017, 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, 2019, 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 27, 2020, 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.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current-period audit of the financial statements that was communicated or required to be communicated to the audit committee and that (1) relates to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Valuation of Level 3 Financial Assets and Liabilities Carried at Fair Value - Refer to Note 3 to the financial statements

Critical Audit Matter Description

The Firm's trading and financing activities result in the Firm carrying material financial instruments having limited price transparency. These financial instruments can span a broad array of product types and generally include derivative, security and lending positions, as well as borrowings carried at fair value. These financial instruments are generally classified as Level 3 financial assets or liabilities in conformity with accounting principles generally accepted in the United States of America.

Unlike financial instruments whose values or inputs are readily observable and therefore more easily independently corroborated, the valuation of financial instruments classified as Level 3 is inherently subjective, and often involves the use of proprietary valuation models whose underlying algorithms and valuation methodologies are complex.

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Given the Firm uses complex valuation models and model inputs that are not observable in the marketplace to determine the fair value of Level 3 financial assets and liabilities carried at fair value, performing audit procedures to evaluate the appropriateness of these models and inputs involved a high degree of auditor judgment, specialized skills, and an increased extent of testing.

How the Critical Audit Matter Was Addressed in the Audit

- We tested the design and operating effectiveness of the Firm's valuation controls, including model review and price verification for the appropriateness of valuation methodology including inputs and assumptions used.
- We independently evaluated the appropriateness of management's significant valuation methodologies, including the input assumptions, considering the expected assumptions of other market participants, and external data, when available.
- We developed independent valuation estimates for certain financial instrument selections, using externally sourced inputs and independent valuation models, and used such estimates to further evaluate management's fair value measurement by investigating the differences exceeding established thresholds between our estimate and that of the Firm, including; comparing the fair value estimate with similar transactions; and, evaluating the Firm's assumptions inclusive of the inputs.
- We tested the revenues arising from the valuation estimate on trade date for certain structured transactions involving Level 3 financial instruments. In performing such procedures, we also developed independent valuation estimates for certain structured transaction selections, as well as tested the valuation assumptions and methodologies used by the Company. Those procedures also included evaluating whether the methods were consistent with relevant Company valuation policies and agreeing relevant cash flows to underlying support.
- We assessed the consistency by which management has applied significant and unobservable valuation assumptions.
- We performed a retrospective assessment of management's valuation estimates for a sample of financial instrument selections by comparing such estimates to relevant transactions.

/s/ Deloitte & Touche LLP
New York, New York
February 27, 2020

We have served as the Firm's auditor since 1997.

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Consolidated Income Statements

Morgan Stanley

in millions, except per share data	2019	2018	2017
Revenues			
Investment banking	$ 6,163	$ 6,482	$ 6,003
Trading	11,095	11,551	11,116
Investments	1,540	437	820
Commissions and fees	3,919	4,190	4,061
Asset management	13,083	12,898	11,797
Other	925	743	848
Total non-interest revenues	36,725	36,301	34,645
Interest income	17,098	13,892	8,997
Interest expense	12,404	10,086	5,697
Net interest	4,694	3,806	3,300
Net revenues	41,419	40,107	37,945
Non-interest expenses			
Compensation and benefits	18,837	17,632	17,166
Occupancy and equipment	1,428	1,391	1,329
Brokerage, clearing and exchange fees	2,493	2,393	2,093
Information processing and communications	2,194	2,016	1,791
Marketing and business development	660	691	609
Professional services	2,137	2,265	2,169
Other	2,369	2,482	2,385
Total non-interest expenses	30,118	28,870	27,542
Income from continuing operations before income taxes	11,301	11,237	10,403
Provision for income taxes	2,064	2,350	4,168
Income from continuing operations	9,237	8,887	6,235
Income (loss) from discontinued operations, net of income taxes	—	(4)	(19)
Net income	$ 9,237	$ 8,883	$ 6,216
Net income applicable to noncontrolling interests	195	135	105
Net income applicable to Morgan Stanley	$ 9,042	$ 8,748	$ 6,111
Preferred stock dividends and other	530	526	523
Earnings applicable to Morgan Stanley common shareholders	$ 8,512	$ 8,222	$ 5,588
Earnings per basic common share			
Income from continuing operations	$ 5.26	$ 4.81	$ 3.15
Income (loss) from discontinued operations	—	—	(0.01)
Earnings per basic common share	$ 5.26	$ 4.81	$ 3.14
Earnings per diluted common share			
Income from continuing operations	$ 5.19	$ 4.73	$ 3.08
Income (loss) from discontinued operations	—	—	(0.01)
Earnings per diluted common share	$ 5.19	$ 4.73	$ 3.07
Average common shares outstanding			
Basic	1,617	1,708	1,780
Diluted	1,640	1,738	1,821

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Consolidated Comprehensive Income Statements

Morgan Stanley

$ in millions	2019	2018	2017
Net income	**$ 9,237**	$ 8,883	$ 6,216
Other comprehensive income (loss), net of tax:			
Foreign currency translation adjustments	**$ 3**	$ (90)	$ 251
Change in net unrealized gains (losses) on available-for-sale securities	**1,137**	(272)	41
Pension, postretirement and other	**(66)**	137	(117)
Change in net debt valuation adjustment	**(1,639)**	1,517	(588)
Total other comprehensive income (loss)	**$ (565)**	$ 1,292	$ (413)
Comprehensive income	**$ 8,672**	$ 10,175	$ 5,803
Net income applicable to noncontrolling interests	**195**	135	105
Other comprehensive income (loss) applicable to noncontrolling interests	**(69)**	87	4
Comprehensive income applicable to Morgan Stanley	**$ 8,546**	$ 9,953	$ 5,694

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Consolidated Balance Sheets

Morgan Stanley

$ in millions, except share data	At December 31, 2019	At December 31, 2018
Assets		
Cash and cash equivalents:		
Cash and due from banks	**$ 4,293**	$ 30,541
Interest bearing deposits with banks	**45,366**	21,299
Restricted cash	**32,512**	35,356
Trading assets at fair value (**$128,386** and $120,437 were pledged to various parties)	**297,110**	266,299
Investment securities (includes **$62,223** and $61,061 at fair value)	**105,725**	91,832
Securities purchased under agreements to resell (includes **$4** and $— at fair value)	**88,224**	98,522
Securities borrowed	**106,549**	116,313
Customer and other receivables	**55,646**	53,298
Loans:		
Held for investment (net of allowance of **$349** and $238)	**118,060**	99,815
Held for sale	**12,577**	15,764
Goodwill	**7,143**	6,688
Intangible assets (net of accumulated amortization of **$3,204** and $2,877)	**2,107**	2,163
Other assets	**20,117**	15,641
Total assets	**$ 895,429**	$ 853,531
Liabilities		
Deposits (includes **$2,099** and $442 at fair value)	**$ 190,356**	$ 187,820
Trading liabilities at fair value	**133,356**	126,747
Securities sold under agreements to repurchase (includes **$733** and $812 at fair value)	**54,200**	49,759
Securities loaned	**8,506**	11,908
Other secured financings (includes **$7,809** and $5,245 at fair value)	**14,698**	9,466
Customer and other payables	**197,834**	179,559
Other liabilities and accrued expenses	**21,155**	17,204
Borrowings (includes **$64,461** and $51,184 at fair value)	**192,627**	189,662
Total liabilities	**812,732**	772,125
Commitments and contingent liabilities (see Note 13)		
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: **1,593,973,680** and 1,699,828,943	**20**	20
Additional paid-in capital	**23,935**	23,794
Retained earnings	**70,589**	64,175
Employee stock trusts	**2,918**	2,836
Accumulated other comprehensive income (loss)	**(2,788)**	(2,292)
Common stock held in treasury at cost, $0.01 par value (**444,920,299** and 339,065,036 shares)	**(18,727)**	(13,971)
Common stock issued to employee stock trusts	**(2,918)**	(2,836)
Total Morgan Stanley shareholders' equity	**81,549**	80,246
Noncontrolling interests	**1,148**	1,160
Total equity	**82,697**	81,406
Total liabilities and equity	**$ 895,429**	$ 853,531

See Notes to Consolidated Financial Statements

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Consolidated Statements of Changes in Total Equity

Morgan Stanley

$ in millions	**2019**	2018	2017
Preferred Stock			
Beginning Balance	$ 8,520	$ 8,520	$ 7,520
Issuance of preferred stock	**500**	—	1,000
Redemption of preferred stock[1]	**(500)**	—	—
Ending balance	**8,520**	8,520	8,520
Common Stock			
Beginning and ending balance	**20**	20	20
Additional Paid-in Capital			
Beginning balance	23,794	23,545	23,271
Cumulative adjustments for accounting changes[2]	**—**	—	45
Share-based award activity	**131**	249	306
Issuance of preferred stock	**(3)**	—	(6)
Other net increases (decreases)	**13**	—	(71)
Ending balance	**23,935**	23,794	23,545
Retained Earnings			
Beginning balance	64,175	57,577	53,679
Cumulative adjustments for accounting changes[2]	**63**	306	(35)
Net income applicable to Morgan Stanley	**9,042**	8,748	6,111
Preferred stock dividends[3]	**(524)**	(526)	(523)
Common stock dividends[3]	**(2,161)**	(1,930)	(1,655)
Other net increases (decreases)	**(6)**	—	—
Ending balance	**70,589**	64,175	57,577
Employee Stock Trusts			
Beginning balance	2,836	2,907	2,851
Share-based award activity	**82**	(71)	56
Ending balance	**2,918**	2,836	2,907
Accumulated Other Comprehensive Income (Loss)			
Beginning balance	(2,292)	(3,060)	(2,643)
Cumulative adjustments for accounting changes[2]	**—**	(437)	—
Net change in Accumulated other comprehensive income (loss)	**(496)**	1,205	(417)
Ending balance	**(2,788)**	(2,292)	(3,060)
Common Stock Held In Treasury at Cost			
Beginning balance	(13,971)	(9,211)	(5,797)
Share-based award activity	**1,198**	806	878
Repurchases of common stock and employee tax withholdings	**(5,954)**	(5,566)	(4,292)
Ending balance	**(18,727)**	(13,971)	(9,211)
Common Stock Issued to Employee Stock Trusts			
Beginning balance	(2,836)	(2,907)	(2,851)
Share-based award activity	**(82)**	71	(56)
Ending balance	**(2,918)**	(2,836)	(2,907)
Noncontrolling Interests			
Beginning balance	1,160	1,075	1,127
Net income applicable to noncontrolling interests	**195**	135	105
Net change in Accumulated other comprehensive income (loss)	**(69)**	87	4
Other net increases (decreases)	**(138)**	(137)	(161)
Ending balance	**1,148**	1,160	1,075
Total Equity	**$ 82,697**	$ 81,406	$ 78,466

1. See Note 16 for information regarding the notice of redemption and reclassification of Series G Preferred Stock.
2. See Notes 2 and 16 for further information regarding cumulative adjustments for accounting changes.
3. See Note 16 for information regarding dividends per share for each class of stock.

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Consolidated Cash Flow Statements

Morgan Stanley

$ in millions	**2019**	2018	2017
Cash flows from operating activities			
Net income	**$ 9,237**	$ 8,883	$ 6,216
Adjustments to reconcile net income to net cash provided by (used for) operating activities:			
Deferred income taxes	**165**	449	2,747
Stock-based compensation expense	**1,153**	920	1,026
Depreciation and amortization	**2,643**	1,844	1,753
Provision for (Release of) credit losses on lending activities	**162**	(15)	29
Other operating adjustments	**(195)**	199	153
Changes in assets and liabilities:			
Trading assets, net of Trading liabilities	**(13,668)**	23,732	(27,588)
Securities borrowed	**9,764**	7,697	1,226
Securities loaned	**(3,402)**	(1,684)	(2,252)
Customer and other receivables and other assets	**233**	(728)	(9,315)
Customer and other payables and other liabilities	**19,942**	(13,063)	2,007
Securities purchased under agreements to resell	**10,298**	(14,264)	17,697
Securities sold under agreements to repurchase	**4,441**	(6,665)	1,796
Net cash provided by (used for) operating activities	**40,773**	7,305	(4,505)
Cash flows from investing activities			
Proceeds from (payments for):			
Other assets—Premises, equipment and software, net	**(1,826)**	(1,865)	(1,629)
Changes in loans, net	**(17,359)**	(8,794)	(12,125)
Investment securities:			
Purchases	**(42,586)**	(27,800)	(23,962)
Proceeds from sales	**17,151**	3,208	18,131
Proceeds from paydowns and maturities	**12,012**	12,668	7,445
Other investing activities	**(953)**	(298)	(251)
Net cash provided by (used for) investing activities	**(33,561)**	(22,881)	(12,391)
Cash flows from financing activities			
Net proceeds from (payments for):			
Other secured financings	**3,695**	(1,226)	(1,573)
Deposits	**2,513**	28,384	3,573
Proceeds from:			
Issuance of preferred stock, net of issuance costs	**497**	—	994
Issuance of Borrowings	**30,605**	40,059	55,416
Payments for:			
Borrowings	**(40,548)**	(34,781)	(35,825)
Repurchases of common stock and employee tax withholdings	**(5,954)**	(5,566)	(4,292)
Cash dividends	**(2,627)**	(2,375)	(2,085)
Other financing activities	**(147)**	(290)	53
Net cash provided by (used for) financing activities	**(11,966)**	24,205	16,261
Effect of exchange rate changes on cash and cash equivalents	**(271)**	(1,828)	3,670
Net increase (decrease) in cash and cash equivalents	**(5,025)**	6,801	3,035
Cash and cash equivalents, at beginning of period	**87,196**	80,395	77,360
Cash and cash equivalents, at end of period	**$ 82,171**	$ 87,196	$ 80,395
Cash and cash equivalents:			
Cash and due from banks	**$ 4,293**	$ 30,541	$ 24,816
Interest bearing deposits with banks	**45,366**	21,299	21,348
Restricted cash	**32,512**	35,356	34,231
Cash and cash equivalents, at end of period	**$ 82,171**	$ 87,196	$ 80,395
Supplemental Disclosure of Cash Flow Information			
Cash payments for:			
Interest	**$ 12,511**	$ 9,977	$ 5,377
Income taxes, net of refunds	**1,908**	1,377	1,390

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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 Terms and Acronyms" for the definition of certain terms and acronyms used throughout this 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 and commercial real estate loans, providing secured lending facilities, and extending financing to sales and trading customers. Other activities include Asia wealth management services, 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; stock plan administration 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, which are offered through a variety of investment vehicles, 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 generally served through intermediaries, including affiliated and non-affiliated distributors.

Basis of Financial Information

The financial statements are prepared in accordance with U.S. GAAP, which requires the Firm to make estimates and assumptions regarding the valuations of certain financial instruments, the valuations 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.

Certain reclassifications have been made to prior periods to conform to the current presentation. The Notes are an integral part of the Firm's financial statements. The Firm has evaluated subsequent events for adjustment to or disclosure in these 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.

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 14). Intercompany balances and transactions have been eliminated. For consolidated subsidiaries that are not 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 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 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 10) 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"), 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 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 loan syndications, and advisory fees, primarily for mergers, acquisitions and restructurings.

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 those 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 in certain funds exceeds specified 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 13 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 of 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 or allowed by accounting guidance. These financial instruments primarily represent the Firm's trading and investment positions and include both cash and derivative products. In addition, securities classified as AFS 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 6) and derivatives accounted for as hedges (see "Hedge Accounting" herein and Note 5).

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 Securities purchased under agreements to resell, Loans and lending commitments, equity method investments and certain other assets, Deposits, Securities sold under agreements to repurchase, Other secured financings and Borrowings.

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, block discounts and discounts for entity-specific restrictions that would not transfer to market participants 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, including 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 and funding. Adjustments for liquidity risk adjust model-derived mid-market amounts 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 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 cash collateral against any net amount owed by the counterparty. Derivatives with enforceable master netting agreements are reported net of cash collateral received and posted.

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 5).

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 5 and 7, 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 of interest rate swaps designated as hedges of changes in the benchmark interest rate of certain fixed rate AFS securities and senior borrowings. In the fourth quarter of 2019, the Firm also began designating interest rate swaps as fair value hedges of changes in the benchmark interest rate of certain fixed rate deposits. 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 (AFS security, deposit liability or borrowing), 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 counterparty credit spreads and its own 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, offset by the change in the fair value attributable to the change in the benchmark interest rate risk of the hedged asset (liability), is recognized in earnings each period as a component of 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 5.

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, unless such securities are designated in a fair value hedge. Interest 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 6). 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.

OTTI

AFS 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 securities. OTTI is recognized in the income statements with the exception of the non-credit portion related to a 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 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 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 security. If the Firm does not expect to recover the entire amortized cost of those AFS 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 utilized 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.

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 8. 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 and expense for the credit exposure are recorded in Other liabilities and accrued expenses in the balance sheets, and Other non-interest expenses in the income statements, respectively. For more information regarding loan commitments, standby letters of credit and financial guarantees, see Note 13.

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 8.

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 collateralized financings. Securities borrowed or purchased under agreements to resell and securities loaned or sold under agreements to repurchase are treated as collateralized financings (see Note 7).

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 reverse repurchase and repurchase agreements for which the Firm has elected the fair value option (see Note 4). 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 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
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 further information on diluted earnings (loss) per common share, see Note 16 to the financial statements.

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 ("VWAP"). The fair value of RSUs not entitled to dividends until conversion is measured at VWAP reduced by the present value of dividends expected to be paid on the underlying shares prior to scheduled conversion date. 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 separate 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, at its discretion, 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 are generally accounted for in a manner similar to treasury stock, where the shares of common stock outstanding reported in Common stock issued to employee stock trusts are offset by an equal amount reported in 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 separate vesting portion of deferred awards. 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 financial instruments or other investments 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.

Carried Interest Compensation

The Firm generally recognizes compensation expense for any portion of carried interest (both realized and unrealized) that is allocated to employees. For information on performance-based fees in the form of carried interest, which are directly related to carried interest compensation, see "Revenue Recognition—Carried Interest" herein.

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 recognized as a component of the 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 in 2019

See Note 16 for a summary of the Retained earnings impact of these adoptions.

Leases

Upon the adoption of *Leases,* the Firm began recognizing in the balance sheet leases with terms exceeding one year as right-of-use ("ROU") assets and corresponding liabilities. The adoption resulted in an increase to Retained earnings of approximately $63 million, net of tax, related to deferred revenue from previously recorded sale-leaseback transactions. At transition on January 1, 2019, the adoption also resulted in a balance sheet gross-up of approximately $4 billion reflected in Other assets and Other liabilities and accrued expenses. See Note 10 for lease disclosures, including amounts reflected in the December 31, 2019 balance sheet. Prior period amounts were not restated.

As allowed by the guidance, the Firm elected not to reassess the following at transition: whether existing contracts are or contain leases; and for existing leases, lease classification and initial direct costs. In addition, the Firm continues to account for existing land easements as service contracts.

Both at transition and for new leases thereafter, ROU assets and lease liabilities are initially recognized based on the present value of the future minimum lease payments over the lease term, including non-lease components such as fixed common area maintenance costs and other fixed costs such as real estate taxes and insurance.

The discount rates used in determining the present value of leases are the Firm's incremental borrowing rates, developed based upon each lease's term and currency of payment. The lease term includes options to extend or terminate the lease when it is reasonably certain that the Firm will exercise that option. For operating leases, the ROU assets also include any prepaid lease payments and initial direct costs incurred and are reduced by lease incentives. For these leases, lease expense is recognized on a straight-line basis over the lease term if the ROU asset has not been impaired or abandoned.

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. The Firm adopted this update on a prospective basis for qualifying new or redesignated hedging relationships. This update did not impact the Firm's pre-existing hedges.

Accounting Update Adopted in 2018

See Note 16 for a summary of the Retained earnings impact of this adoption.

Revenue Recognition

The Firm adopted Revenues from Contracts with Customers using the modified retrospective method. Our revenue recognition policies are reflective of this update since adoption, while 2017 revenues and expenses remain as presented under the prior accounting policy.

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-based 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.

3. Fair Values

Recurring Fair Value Measurements

Assets and Liabilities Measured at Fair Value on a Recurring Basis

$ in millions	Level 1	Level 2	Level 3	Netting[1]	Total
	At December 31, 2019				
Assets at fair value					
Trading assets:					
U.S. Treasury and agency securities	$ 36,866	$ 28,992	$ 22	$ —	$ 65,880
Other sovereign government obligations	23,402	4,347	5	—	27,754
State and municipal securities	—	2,790	1	—	2,791
MABS	—	1,690	438	—	2,128
Loans and lending commitments[2]	—	6,253	5,073	—	11,326
Corporate and other debt	—	22,124	1,396	—	23,520
Corporate equities[3]	123,942	652	97	—	124,691
Derivative and other contracts:					
Interest rate	1,265	182,977	1,239	—	185,481
Credit	—	6,658	654	—	7,312
Foreign exchange	15	64,260	145	—	64,420
Equity	1,219	48,927	922	—	51,068
Commodity and other	1,079	7,255	2,924	—	11,258
Netting[1]	(2,794)	(235,947)	(993)	(47,804)	(287,538)
Total derivative and other contracts	784	74,130	4,891	(47,804)	32,001
Investments[4]	481	252	858	—	1,591
Physical commodities	—	1,907	—	—	1,907
Total trading assets[4]	185,475	143,137	12,781	(47,804)	293,589
Investment securities—AFS	32,902	29,321	—	—	62,223
Securities purchased under agreements to resell	—	4	—	—	4
Total assets at fair value	$ 218,377	$ 172,462	$ 12,781	$ (47,804)	$ 355,816

$ in millions	Level 1	Level 2	Level 3	Netting[1]	Total
	At December 31, 2019				
Liabilities at fair value					
Deposits	$ —	$ 1,920	$ 179	$ —	$ 2,099
Trading liabilities:					
U.S. Treasury and agency securities	11,191	34	—	—	11,225
Other sovereign government obligations	21,837	1,332	1	—	23,170
Corporate and other debt	—	7,410	—	—	7,410
Corporate equities[3]	63,002	79	36	—	63,117
Derivative and other contracts:					
Interest rate	1,144	171,025	462	—	172,631
Credit	—	7,391	530	—	7,921
Foreign exchange	6	67,473	176	—	67,655
Equity	1,200	49,062	2,606	—	52,868
Commodity and other	1,194	7,118	1,312	—	9,624
Netting[1]	(2,794)	(235,947)	(993)	(42,531)	(282,265)
Total derivative and other contracts	750	66,122	4,093	(42,531)	28,434
Total trading liabilities	96,780	74,977	4,130	(42,531)	133,356
Securities sold under agreements to repurchase	—	733	—	—	733
Other secured financings	—	7,700	109	—	7,809
Borrowings	—	60,373	4,088	—	64,461
Total liabilities at fair value	$ 96,780	$ 145,703	$ 8,506	$ (42,531)	$ 208,458

Notes to Consolidated Financial Statements

$ 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, 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

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 5.
2. For a further breakdown by type, see the following Detail of 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 "Net Asset Value Measurements" herein.

Detail of Loans and Lending Commitments at Fair Value

$ in millions	**At December 31, 2019**	At December 31, 2018
Corporate	**$ 8,036**	$ 9,171
Residential real estate	**1,192**	1,153
Commercial real estate	**2,098**	601
Total	**$ 11,326**	$ 10,925

Unsettled Fair Value of Futures Contracts[1]

$ in millions	**At December 31, 2019**	At December 31, 2018
Customer and other receivables, net	**$ 365**	$ 615

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.

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.	• Level 1
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 - on-the-run agency issued debt securities if actively traded and inputs are observable • Generally Level 2 - all other agency issued debt securities, agency mortgage pass-through pool securities and CMOs if actively traded and inputs are observable • Level 3 - in instances where the trading activity is limited or inputs are unobservable
Other Sovereign Government Obligations • Fair value is determined using quoted prices in active markets when available. When not available, quoted prices in less-active markets are used. In the absence of position-specific quoted prices, fair value may be determined through benchmarking from comparable instruments.	• 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, 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 cash flow models may be utilized 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
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 and Other Debt	
Corporate Bonds • Fair value is determined using recently executed transactions, market price quotations, bond spreads and CDS spreads 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 comparable issuers 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.	• 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

Asset and Liability/Valuation Technique	Valuation Hierarchy Classification
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.	• 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
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.	• Generally 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 as noted below.	• 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
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. • Exchange-traded direct equity investments are generally valued based on quoted prices from the exchange. • 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. These investments are included in the Fund Interests table in the "Net Asset Value Measurements" section herein. • 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.	• 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

Asset and Liability/Valuation Technique	Valuation Hierarchy Classification
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, ABS, state and municipal securities, and corporate bonds. 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
Other Secured Financings • Other secured financings are composed of short-dated notes secured by Corporate equities, agreements to repurchase Physical commodities, the liabilities related to sales of Loans and lending commitments accounted for as financings, and contracts which are not classified as OTC derivatives because they fail net investment criteria. For further information on the determination of valuation hierarchy classification, see the corresponding Valuation Hierarchy Classification described herein.	• For further information on the determination of valuation hierarchy classification, see the corresponding Valuation Hierarchy Classification described herein.
Borrowings • The Firm carries certain borrowings at fair value 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 is determined using valuation models for the derivative and debt portions of the instruments. These models incorporate observable inputs referencing identical or comparable securities, including prices to which the instruments are linked, interest rate yield curves, option volatility and currency rates, and commodity or equity prices. • Independent, external and traded prices 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

Rollforward of Level 3 Assets and Liabilities Measured at Fair Value on a Recurring Basis

$ in millions	2019	2018	2017
U.S. Treasury and agency securities			
Beginning balance	$ 54	$ —	$ 74
Realized and unrealized gains (losses)	4	1	(1)
Purchases	17	53	—
Sales	(54)	—	(240)
Net transfers	1	—	167
Ending balance	$ 22	$ 54	$ —
Unrealized gains (losses)	$ 4	$ 1	$ —
Other sovereign government obligations			
Beginning balance	$ 17	$ 1	$ 6
Realized and unrealized gains (losses)	(3)	—	—
Purchases	7	41	—
Sales	(6)	(26)	(5)
Net transfers	(10)	1	—
Ending balance	$ 5	$ 17	$ 1
Unrealized gains (losses)	$ (3)	$ —	$ —
State and municipal securities			
Beginning balance	$ 148	$ 8	$ 250
Realized and unrealized gains (losses)	—	—	3
Purchases	—	147	6
Sales	(147)	(9)	(83)
Net transfers	—	2	(168)
Ending balance	$ 1	$ 148	$ 8
Unrealized gains (losses)	$ —	$ —	$ —
MABS			
Beginning balance	$ 354	$ 423	$ 217
Realized and unrealized gains (losses)	(16)	82	47
Purchases	132	177	289
Sales	(175)	(338)	(158)
Settlements	(44)	(17)	(37)
Net transfers	187	27	65
Ending balance	$ 438	$ 354	$ 423
Unrealized gains (losses)	$ (57)	$ (9)	$ (7)
Loans and lending commitments			
Beginning balance	$ 6,870	$ 5,945	$ 5,122
Realized and unrealized gains (losses)	38	(100)	182
Purchases	2,337	5,746	3,616
Sales	(1,268)	(2,529)	(1,561)
Settlements	(2,291)	(2,281)	(1,463)
Net transfers	(613)	89	49
Ending balance	$ 5,073	$ 6,870	$ 5,945
Unrealized gains (losses)	$ (9)	$ (137)	$ 131
Corporate and other debt			
Beginning balance	$ 1,076	$ 701	$ 475
Realized and unrealized gains (losses)	418	106	82
Purchases	650	734	487
Sales	(729)	(251)	(420)
Settlements	(7)	(11)	(9)
Net transfers	(12)	(203)	86
Ending balance	$ 1,396	$ 1,076	$ 701
Unrealized gains (losses)	$ 361	$ 70	$ 23

$ in millions	2019	2018	2017
Corporate equities			
Beginning balance	$ 95	$ 166	$ 446
Realized and unrealized gains (losses)	(8)	29	(54)
Purchases	32	13	173
Sales	(271)	(161)	(632)
Net transfers	249	48	233
Ending balance	$ 97	$ 95	$ 166
Unrealized gains (losses)	$ 1	$ 17	$ (6)
Investments			
Beginning balance	$ 757	$ 1,020	$ 958
Realized and unrealized gains (losses)	78	(25)	96
Purchases	40	149	102
Sales	(41)	(212)	(57)
Settlements	—	—	(78)
Net transfers	24	(175)	(1)
Ending balance	$ 858	$ 757	$ 1,020
Unrealized gains (losses)	$ 67	$ (27)	$ 88
Net derivatives: Interest rate			
Beginning balance	$ 618	$ 1,218	$ 420
Realized and unrealized gains (losses)	17	111	322
Purchases	98	63	29
Issuances	(16)	(19)	(18)
Settlements	1	(172)	608
Net transfers	59	(583)	(143)
Ending balance	$ 777	$ 618	$ 1,218
Unrealized gains (losses)	$ 87	$ 140	$ 341
Net derivatives: Credit			
Beginning balance	$ 40	$ 41	$ (373)
Realized and unrealized gains (losses)	(24)	33	(43)
Purchases	144	13	—
Issuances	(190)	(95)	(1)
Settlements	111	56	455
Net transfers	43	(8)	3
Ending balance	$ 124	$ 40	$ 41
Unrealized gains (losses)	$ (17)	$ 23	$ (18)
Net derivatives: Foreign exchange			
Beginning balance	$ 75	$ (112)	$ (43)
Realized and unrealized gains (losses)	(295)	179	(108)
Purchases	2	3	—
Issuances	—	(1)	(1)
Settlements	7	2	31
Net transfers	180	4	9
Ending balance	$ (31)	$ 75	$ (112)
Unrealized gains (losses)	$ (187)	$ 118	$ (89)
Net derivatives: Equity			
Beginning balance	$ (1,485)	$ 1,208	$ 184
Realized and unrealized gains (losses)	(260)	305	136
Purchases	155	122	988
Issuances	(643)	(1,179)	(524)
Settlements	242	314	396
Net transfers[1]	307	(2,255)	28
Ending balance	$ (1,684)	$ (1,485)	$ 1,208
Unrealized gains (losses)	$ (194)	$ 211	$ 159

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$ in millions	2019	2018	2017
Net derivatives: Commodity and other			
Beginning balance	$ 2,052	$ 1,446	$ 1,600
Realized and unrealized gains (losses)	73	500	515
Purchases	152	34	24
Issuances	(92)	(18)	(57)
Settlements	(611)	(81)	(343)
Net transfers	38	171	(293)
Ending balance	$ 1,612	$ 2,052	$ 1,446
Unrealized gains (losses)	$ (113)	$ 272	$ 20
Deposits			
Beginning balance	$ 27	$ 47	$ 42
Realized and unrealized losses (gains)	20	(1)	3
Issuances	101	9	12
Settlements	(15)	(2)	(3)
Net transfers	46	(26)	(7)
Ending balance	$ 179	$ 27	$ 47
Unrealized losses (gains)	$ 20	$ (1)	$ 3
Nonderivative trading liabilities			
Beginning balance	$ 16	$ 25	$ 71
Realized and unrealized losses (gains)	(21)	(6)	(1)
Purchases	(65)	(18)	(139)
Sales	38	9	20
Net transfers	69	6	74
Ending balance	$ 37	$ 16	$ 25
Unrealized losses (gains)	$ (21)	$ (7)	$ —
Securities sold under agreements to repurchase			
Beginning balance	$ —	$ 150	$ 149
Issuances	—	—	1
Net transfers	—	(150)	—
Ending balance	$ —	$ —	$ 150
Unrealized losses (gains)	$ —	$ —	$ —
Other secured financings			
Beginning balance	$ 208	$ 239	$ 434
Realized and unrealized losses (gains)	5	(39)	35
Issuances	—	8	64
Settlements	(8)	(17)	(251)
Net transfers	(96)	17	(43)
Ending balance	$ 109	$ 208	$ 239
Unrealized losses (gains)	$ 5	$ (39)	$ 28
Borrowings			
Beginning balance	$ 3,806	$ 2,984	$ 2,014
Realized and unrealized losses (gains)	728	(385)	196
Issuances	1,181	1,554	1,968
Settlements	(950)	(274)	(424)
Net transfers	(677)	(73)	(770)
Ending balance	$ 4,088	$ 3,806	$ 2,984
Unrealized losses (gains)	$ 600	$ (379)	$ 173
Portion of Unrealized losses (gains) recorded in OCI—Change in net DVA	182	(184)	76

1. 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.

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

Valuation Techniques and Unobservable Inputs

$ in millions, except inputs	Balance / Range (Average[1]) At December 31, 2019	At December 31, 2018
Assets at Fair Value on a Recurring Basis		
U.S. Treasury and agency securities	$ 22	$ 54
Comparable pricing:		
Bond price	N/M	100 to 104 points (100 points)
State and municipal securities	$ 1	$ 148
Comparable pricing:		
Bond price	N/M	94 to 100 points (96 points)
MABS	$ 438	$ 354
Comparable pricing:		
Bond price	0 to 96 points (47 points)	0 to 97 points (38 points)
Loans and lending commitments	$ 5,073	$ 6,870
Margin loan model:		
Discount rate	1% to 9% (2%)	1% to 7% (2%)
Volatility skew	15% to 80% (28%)	19% to 56% (28%)
Credit Spread	9 to 39 bps (19 bps)	14 to 90 bps (36 bps)
Comparable pricing:		
Loan price	69 to 100 points (93 points)	60 to 101 points (95 points)
Corporate and other debt	$ 1,396	$ 1,076
Comparable pricing:		
Bond price	11 to 108 points (84 points)	12 to 100 points (72 points)
Discounted cash flow:		
Recovery rate	35%	20 %
Discount rate	N/M	15% to 21% (16%)
Option model:		
At the money volatility	21%	24% to 78% (50%)

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$ in millions,except inputs	Balance / Range (Average[1]) At December 31, 2019	At December 31, 2018
Corporate equities	**$ 97**	$ 95
Comparable pricing:		
Equity price	**100%**	100 %
Investments	**$ 858**	$ 757
Discounted cash flow:		
WACC	**8% to 17% (15%)**	9% to 15% (10%)
Exit multiple	**7 to 16 times (11 times)**	7 to 10 times (10 times)
Market approach:		
EBITDA multiple	**7 to 24 times (11 times)**	6 to 24 times (12 times)
Comparable pricing:		
Equity price	**75% to 100% (99%)**	75% to 100% (96%)
Net derivative and other contracts:		
Interest rate	**$ 777**	$ 618
Option model:		
IR volatility skew	**24% to 156% (63% / 59%)**	22% to 95% (48% / 51%)
IR curve correlation	**47% to 90% (72% / 72%)**	N/M
Bond volatility	**4% to 15% (13% / 14%)**	N/M
Inflation volatility	**24% to 63% (44% / 41%)**	23% to 65% (44% / 40%)
IR curve	**1%**	1 %
Credit	**$ 124**	$ 40
Credit default swap model:		
Cash-synthetic basis	**6 points**	8 to 9 points (9 points)
Bond price	**0 to 104 points (45 points)**	0 to 75 points (26 points)
Credit spread	**9 to 469 bps (81 bps)**	246 to 499 bps (380 bps)
Funding spread	**47 to 117 bps (84 bps)**	47 to 98 bps (93 bps)
Correlation model:		
Credit correlation	**29% to 62% (36%)**	36% to 69% (44%)
Foreign exchange[2]	**$ (31)**	$ 75
Option model:		
IR - FX correlation	**32% to 56% (46% / 46%)**	53% to 56% (55% / 55%)
IR volatility skew	**24% to 156% (63% / 59%)**	22% to 95% (48% / 51%)
IR curve	**10% to 11% (10% / 10%)**	N/M
Contingency probability	**85% to 95% (94% / 95%)**	90% to 95% (93% / 95%)
Equity[2]	**$ (1,684)**	$ (1,485)
Option model:		
At the money volatility	**9% to 90% (36%)**	17% to 63% (38%)
Volatility skew	**-2% to 0% (-1%)**	-2% to 0% (-1%)
Equity correlation	**5% to 98% (70%)**	5% to 96% (71%)
FX correlation	**-79% to 60% (-37%)**	-60% to 55% (-26%)
IR correlation	**-11% to 44% (18% / 16%)**	-7% to 45% (15% / 12%)
Commodity and other	**$ 1,612**	$ 2,052
Option model:		
Forward power price	**$3 to $182 ($28) per MWh**	$3 to $185 ($31) per MWh
Commodity volatility	**7% to 183% (18%)**	7% to 187% (17%)
Cross-commodity correlation	**43% to 99% (93%)**	5% to 99% (93%)

$ in millions,except inputs	Balance / Range (Average[1]) At December 31, 2019	At December 31, 2018
Liabilities Measured at Fair Value on a Recurring Basis		
Deposits	**$ 179**	$ 27
Option model:		
At the money volatility	**16% to 37% (20%)**	N/M
Other secured financings	**$ 109**	$ 208
Discounted cash flow:		
Funding spread	**111 to 124 bps (117 bps)**	103 to 193 bps (148 bps)
Option model:		
Volatility skew	**N/M**	-1 %
At the money volatility	**N/M**	10% to 40% (25%)
Borrowings	**$ 4,088**	$ 3,806
Option model:		
At the money volatility	**5% to 44% (21%)**	5% to 35% (22%)
Volatility skew	**-2% to 0% (0%)**	-2% to 0% (0%)
Equity correlation	**38% to 94% (78%)**	45% to 98% (85%)
Equity - FX correlation	**-75% to 26% (-25%)**	-75% to 50% (-27%)
IR Correlation	**N/M**	58% to 97% (85% / 91%)
IR FX Correlation	**-26% to 10% (-7% / -7%)**	28% to 58% (44% / 44%)
Nonrecurring Fair Value Measurement		
Loans	**$ 1,500**	$ 1,380
Corporate loan model:		
Credit spread	**69 to 446 bps (225 bps)**	97 to 434 bps (181 bps)
Warehouse model:		
Credit spread	**287 to 318 bps (297 bps)**	223 to 313 bps (247 bps)

Points—Percentage of par
IR—Interest rate
FX—Foreign exchange
1. A single amount is disclosed for range and average when there is no significant difference between the minimum, maximum and average. 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).

The previous tables provide information on the valuation techniques, significant unobservable inputs, and the 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 of financial instruments. 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.

An increase (decrease) to the following significant unobservable inputs would generally result in a higher (lower) fair value.

- *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 significant unobservable 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 previous table 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 represents the theoretical rate of return required to debt and equity investors. The WACC is used in a discounted cash flow model that calculates the value of the equity. 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 significant unobservable 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.

Net Asset Value Measurements

Fund Interests

	At December 31, 2019		At December 31, 2018	
$ in millions	Carrying Value	Commitment	Carrying Value	Commitment
Private equity	**$ 2,078**	**$ 450**	$ 1,374	$ 316
Real estate	**1,349**	**150**	1,105	161
Hedge[1]	**94**	**4**	103	4
Total	**$ 3,521**	**$ 604**	$ 2,582	$ 481

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-based 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 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 geographic regions.

Investments in private equity and real estate funds generally are not redeemable due to the closed-end 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 13 for information regarding general partner guarantees, which include potential obligations to return performance fee distributions previously received. See Note 21 for information regarding carried interest at risk of reversal.

Nonredeemable Funds by Contractual Maturity

	Carrying Value at December 31, 2019	
$ in millions	Private Equity	Real Estate
Less than 5 years	**$ 1,205**	**$ 1,041**
5-10 years	**842**	**202**
Over 10 years	**31**	**106**
Total	**$ 2,078**	**$ 1,349**

Nonrecurring Fair Value Measurements

Carrying and Fair Values

	At December 31, 2019		
$ in millions	Level 2	Level 3[1]	Total
Assets			
Loans	**$ 1,543**	**$ 1,500**	**$ 3,043**
Other assets—Other investments	**—**	**113**	**113**
Total	**$ 1,543**	**$ 1,613**	**$ 3,156**
Liabilities			
Other liabilities and accrued expenses—Lending commitments	**$ 132**	**$ 69**	**$ 201**
Total	**$ 132**	**$ 69**	**$ 201**

	At December 31, 2018		
$ in millions	Level 2	Level 3[1]	Total
Assets			
Loans	$ 2,307	$ 1,380	$ 3,687
Other assets—Other investments	14	100	114
Total	$ 2,321	$ 1,480	$ 3,801
Liabilities			
Other liabilities and accrued expenses—Lending commitments	$ 292	$ 65	$ 357
Total	$ 292	$ 65	$ 357

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 Fair Value Remeasurements[1]

$ in millions	**2019**	2018	2017
Assets			
Loans[2]	**$ 18**	$ (68)	$ 18
Other assets—Other investments[3]	**(56)**	(56)	(66)
Other assets—Premises, equipment and software[4]	**(22)**	(46)	(25)
Total	**$ (60)**	$ (170)	$ (73)
Liabilities			
Other liabilities and accrued expenses—Lending commitments[2]	**$ 87**	$ (48)	$ 75
Total	**$ 87**	$ (48)	$ 75

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.
4. Losses related to Other assets—Premises, equipment and software generally include write-offs related to the disposal of certain assets.

Financial Instruments Not Measured at Fair Value

	At December 31, 2019				
		Fair Value			
$ in millions	Carrying Value	Level 1	Level 2	Level 3	Total
Financial assets					
Cash and cash equivalents:					
Cash and due from banks	$ 4,293	$ 4,293	$ —	$ —	$ 4,293
Interest bearing deposits with banks	45,366	45,366	—	—	45,366
Restricted cash	32,512	32,512	—	—	32,512
Investment securities—HTM	43,502	30,661	12,683	789	44,133
Securities purchased under agreements to resell	88,220	—	86,794	1,442	88,236
Securities borrowed	106,549	—	106,551	—	106,551
Customer and other receivables[1]	51,134	—	48,215	2,872	51,087
Loans[2]	130,637	—	22,293	108,059	130,352
Other assets	495	—	495	—	495
Financial liabilities					
Deposits	$ 188,257	$ —	$ 188,639	$ —	$ 188,639
Securities sold under agreements to repurchase	53,467	—	53,486	—	53,486
Securities loaned	8,506	—	8,506	—	8,506
Other secured financings	6,889	—	6,800	92	6,892
Customer and other payables[1]	195,035	—	195,035	—	195,035
Borrowings	128,166	—	133,563	10	133,573
	Commitment Amount				
Lending commitments[3]	$ 119,004	$ —	$ 748	$ 338	$ 1,086

	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

1. Accrued interest and dividend receivables and payables have been excluded. Carrying value approximates fair value for these receivables and payables.
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 13.

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. Fair Value Option

The Firm has 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, 2019	At December 31, 2018
Business Unit Responsible for Risk Management		
Equity	**$ 30,214**	$ 24,494
Interest rates	**27,298**	22,343
Commodities	**4,501**	2,735
Credit	**1,246**	856
Foreign exchange	**1,202**	756
Total	**$ 64,461**	$ 51,184

Net Revenues from Borrowings under the Fair Value Option

$ in millions	2019	2018	2017
Trading revenues	**$ (6,932)**	$ 2,679	$ (4,507)
Interest expense	**375**	321	443
Net revenues[1]	**$ (7,307)**	$ 2,358	$ (4,950)

1. Amounts do not reflect any gains or losses from related economic hedges.

Gains (losses) from changes in fair value are recorded in Trading revenues and are mainly attributable to movements in the reference price or index, interest rates or foreign exchange rates.

Gains (Losses) Due to Changes in Instrument-Specific Credit Risk

$ in millions	Trading Revenues	OCI
2019		
Borrowings	**$ (11)**	**$ (2,140)**
Loans and other debt[1]	**223**	**—**
Lending commitments	**(2)**	**—**
Other	**—**	**(30)**
2018		
Borrowings	$ (24)	$ 1,962
Loans and other debt[1]	165	—
Lending commitments	(3)	—
Other	(32)	41
2017		
Borrowings	$ (12)	$ (903)
Loans and other debt[1]	159	—
Lending commitments	(2)	—
Other	—	(7)

$ in millions	At December 31, 2019	At December 31, 2018
Cumulative pre-tax DVA gain (loss) recognized in AOCI	**$ (1,998)**	$ 172

1. Loans and other debt instrument-specific credit gains (losses) were determined by excluding the non-credit components of gains and losses.

Difference between Contractual Principal and Fair Value[1]

$ in millions	At December 31, 2019	At December 31, 2018
Loans and other debt[2]	**$ 13,037**	$ 13,094
Nonaccrual loans[2]	**10,849**	10,831
Borrowings[3]	**(1,665)**	2,657

1. Amounts indicate contractual principal greater than or (less than) fair value.
2. 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.
3. Excludes borrowings 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 transfers of financial assets treated as collateralized financings, pledged commodities and other liabilities that have specified assets attributable to them.

Fair Value Loans on Nonaccrual Status

$ in millions	At December 31, 2019	At December 31, 2018
Nonaccrual loans	**$ 1,100**	$ 1,497
Nonaccrual loans 90 or more days past due	**$ 330**	$ 812

5. 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 Firmwide basis, on a worldwide trading division level and on an individual product basis.

Derivative Fair Values

At December 31, 2019

$ in millions	Assets Bilateral OTC	Cleared OTC	Exchange-Traded	Total
Designated as accounting hedges				
Interest rate	$ 673	$ —	$ —	$ 673
Foreign exchange	41	1	—	42
Total	714	1	—	715
Not designated as accounting hedges				
Interest rate	179,450	4,839	519	184,808
Credit	4,895	2,417	—	7,312
Foreign exchange	62,957	1,399	22	64,378
Equity	27,621	—	23,447	51,068
Commodity and other	9,306	—	1,952	11,258
Total	284,229	8,655	25,940	318,824
Total gross derivatives	$ 284,943	$ 8,656	$ 25,940	$ 319,539
Amounts offset				
Counterparty netting	(213,710)	(7,294)	(24,037)	(245,041)
Cash collateral netting	(41,222)	(1,275)	—	(42,497)
Total in Trading assets	$ 30,011	$ 87	$ 1,903	$ 32,001
Amounts not offset[1]				
Financial instruments collateral	(15,596)	—	—	(15,596)
Other cash collateral	(46)	—	—	(46)
Net amounts	$ 14,369	$ 87	$ 1,903	$ 16,359
Net amounts for which master netting or collateral agreements are not in place or may not be legally enforceable				$ 1,900

$ in millions	Liabilities Bilateral OTC	Cleared OTC	Exchange-Traded	Total
Designated as accounting hedges				
Interest rate	$ 1	$ —	$ —	$ 1
Foreign exchange	121	38	—	159
Total	122	38	—	160
Not designated as accounting hedges				
Interest rate	168,597	3,597	436	172,630
Credit	4,798	3,123	—	7,921
Foreign exchange	65,965	1,492	39	67,496
Equity	30,135	—	22,733	52,868
Commodity and other	7,713	—	1,911	9,624
Total	277,208	8,212	25,119	310,539
Total gross derivatives	$ 277,330	$ 8,250	$ 25,119	$ 310,699
Amounts offset				
Counterparty netting	(213,710)	(7,294)	(24,037)	(245,041)
Cash collateral netting	(36,392)	(832)	—	(37,224)
Total in Trading liabilities	$ 27,228	$ 124	$ 1,082	$ 28,434
Amounts not offset[1]				
Financial instruments collateral	(7,747)	—	(287)	(8,034)
Other cash collateral	(14)	—	—	(14)
Net amounts	$ 19,467	$ 124	$ 795	$ 20,386
Net amounts for which master netting or collateral agreements are not in place or may not be legally enforceable				$ 3,680

At December 31, 2018

$ in millions	Assets Bilateral OTC	Cleared OTC	Exchange-Traded	Total
Designated as accounting hedges				
Interest rate	$ 512	$ 1	$ —	$ 513
Foreign exchange	27	8	—	35
Total	539	9	—	548
Not designated as accounting hedges				
Interest rate	153,768	3,887	697	158,352
Credit	4,630	1,498	—	6,128
Foreign exchange	61,846	1,310	55	63,211
Equity	24,590	—	23,284	47,874
Commodity and other	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

$ in millions	Liabilities Bilateral OTC	Cleared OTC	Exchange-Traded	Total
Designated as accounting hedges				
Interest rate	$ 176	$ —	$ —	$ 176
Foreign exchange	62	24	—	86
Total	238	24	—	262
Not designated as accounting hedges				
Interest rate	142,592	2,669	663	145,924
Credit	4,545	1,608	—	6,153
Foreign exchange	62,099	1,302	19	63,420
Equity	27,119	—	23,521	50,640
Commodity and other	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

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, 2019

$ in billions	Assets			
	Bilateral OTC	Cleared OTC	Exchange-Traded	Total
Designated as accounting hedges				
Interest rate	**$ 14**	**$ 94**	**$ —**	**$ 108**
Foreign exchange	**2**	**—**	**—**	**2**
Total	**16**	**94**	**—**	**110**
Not designated as accounting hedges				
Interest rate	**4,230**	**7,398**	**732**	**12,360**
Credit	**136**	**79**	**—**	**215**
Foreign exchange	**2,667**	**91**	**10**	**2,768**
Equity	**429**	**—**	**419**	**848**
Commodity and other	**99**	**—**	**61**	**160**
Total	**7,561**	**7,568**	**1,222**	**16,351**
Total gross derivatives	**$ 7,577**	**$ 7,662**	**$ 1,222**	**$ 16,461**

$ in billions	Liabilities			
	Bilateral OTC	Cleared OTC	Exchange-Traded	Total
Designated as accounting hedges				
Interest rate	**$ —**	**$ 71**	**$ —**	**$ 71**
Foreign exchange	**9**	**2**	**—**	**11**
Total	**9**	**73**	**—**	**82**
Not designated as accounting hedges				
Interest rate	**4,185**	**6,866**	**666**	**11,717**
Credit	**153**	**84**	**—**	**237**
Foreign exchange	**2,841**	**91**	**14**	**2,946**
Equity	**455**	**—**	**515**	**970**
Commodity and other	**85**	**—**	**61**	**146**
Total	**7,719**	**7,041**	**1,256**	**16,016**
Total gross derivatives	**$ 7,728**	**$ 7,114**	**$ 1,256**	**$ 16,098**

At December 31, 2018

$ in billions	Assets			
	Bilateral OTC	Cleared OTC	Exchange-Traded	Total
Designated as accounting hedges				
Interest rate	$ 15	$ 52	$ —	$ 67
Foreign exchange	5	1	—	6
Total	20	53	—	73
Not designated as accounting hedges				
Interest rate	4,807	6,708	1,157	12,672
Credit	162	74	—	236
Foreign exchange	2,436	118	14	2,568
Equity	373	—	371	744
Commodity and other	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	$ 2	$ 107	$ —	$ 109
Foreign exchange	5	1	—	6
Total	7	108	—	115
Not designated as accounting hedges				
Interest rate	4,946	5,735	781	11,462
Credit	162	73	—	235
Foreign exchange	2,451	114	17	2,582
Equity	389	—	602	991
Commodity and other	72	—	65	137
Total	8,020	5,922	1,465	15,407
Total gross derivatives	$ 8,027	$ 6,030	$ 1,465	$ 15,522

The Firm believes that the notional amounts of derivative contracts generally overstate its exposure. In most circumstances, notional amounts are used only 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	**2019**	2018	2017
Fair value hedges—Recognized in Interest income[1]			
Interest rate contracts	**$ (10)**	$ (4)	$ —
Investment Securities—AFS	**10**	4	—
Fair value hedges—Recognized in Interest expense			
Interest rate contracts	**$ 4,212**	$ (1,529)	$ (1,591)
Deposits[2]	**7**	—	—
Borrowings	**(4,288)**	1,511	1,393
Net investment hedges—Foreign exchange contracts			
Recognized in OCI	**$ 14**	$ 295	$ (365)
Forward points excluded from hedge effectiveness testing—Recognized in Interest income	**136**	68	(20)

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Notes to Consolidated Financial Statements

Fair Value Hedges—Hedged Items

$ in millions	At December 31, 2019	At December 31, 2018
Investment securities—AFS[1]		
Carrying amount[3] currently or previously hedged	$ 917	$ 201
Basis adjustments included in carrying amount[4]	$ 14	$ 4
Deposits[2]		
Carrying amount[3] currently or previously hedged	$ 5,435	$ —
Basis adjustments included in carrying amount[4]	$ (7)	$ —
Borrowings		
Carrying amount[3] currently or previously hedged	$ 102,456	$ 102,899
Basis adjustments included in carrying amount[4]	$ 2,593	$ (1,689)

1. The Firm began designating interest rate swaps as fair value hedges of certain AFS securities in the third quarter of 2018.
2. The Firm began designating interest rate swaps as fair value hedges of certain Deposits in the fourth quarter of 2019.
3. Carrying amount represents amortized cost basis.
4. Hedge accounting basis adjustments for AFS securities, Deposits and Borrowings are primarily related to outstanding hedges.

Derivatives with Credit Risk-Related Contingencies

Net Derivative Liabilities and Collateral Posted

$ in millions	At December 31, 2019	At December 31, 2018
Net derivative liabilities with credit risk-related contingent features	$ 21,620	$ 16,403
Collateral posted	17,392	11,981

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, 2019
One-notch downgrade	$ 254
Two-notch downgrade	328
Bilateral downgrade agreements included in the amounts above[1]	$ 498

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.

Maximum Potential Payout/Notional of Credit Protection Sold[1]

	Years to Maturity at December 31, 2019				
$ in billions	< 1	1-3	3-5	Over 5	Total
Single-name CDS					
Investment grade	$ 16	$ 17	$ 33	$ 9	$ 75
Non-investment grade	9	9	16	1	35
Total	$ 25	$ 26	$ 49	$ 10	$ 110
Index and basket CDS					
Investment grade	$ 4	$ 7	$ 46	$ 11	$ 68
Non-investment grade	7	4	17	10	38
Total	$ 11	$ 11	$ 63	$ 21	$ 106
Total CDS sold	$ 36	$ 37	$ 112	$ 31	$ 216
Other credit contracts	—	—	—	—	—
Total credit protection sold	$ 36	$ 37	$ 112	$ 31	$ 216
CDS protection sold with identical protection purchased					$ 187

	Years to Maturity at December 31, 2018				
$ in billions	< 1	1-3	3-5	Over 5	Total
Single-name CDS					
Investment grade	$ 22	$ 24	$ 19	$ 8	$ 73
Non-investment grade	10	11	9	1	31
Total	$ 32	$ 35	$ 28	$ 9	$ 104
Index and basket CDS					
Investment grade	$ 5	$ 10	$ 61	$ 7	$ 83
Non-investment grade	5	6	13	13	37
Total	$ 10	$ 16	$ 74	$ 20	$ 120
Total CDS sold	$ 42	$ 51	$ 102	$ 29	$ 224
Other credit contracts	—	—	—	—	—
Total credit protection sold	$ 42	$ 51	$ 102	$ 29	$ 224
CDS protection sold with identical protection purchased					$ 210

Fair Value Asset (Liability) of Credit Protection Sold[1]

$ in millions	At December 31, 2019	At December 31, 2018
Single-name CDS		
Investment grade	$ 1,057	$ 118
Non-investment grade	(540)	(403)
Total	$ 517	$ (285)
Index and basket CDS		
Investment grade	$ 1,052	$ 314
Non-investment grade	134	(1,413)
Total	$ 1,186	$ (1,099)
Total CDS sold	$ 1,703	$ (1,384)
Other credit contracts	(17)	(14)
Total credit protection sold	$ 1,686	$ (1,398)

1. Investment grade/non-investment grade determination is based on the internal credit rating of the reference obligation. 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

	Notional	
$ in billions	**At December 31, 2019**	At December 31, 2018
Single name	**$ 118**	$ 116
Index and basket	**103**	117
Tranched index and basket	**15**	14
Total	**$ 236**	$ 247

	Fair Value Asset (Liability)	
$ in millions	**At December 31, 2019**	At December 31, 2018
Single name	**$ (723)**	$ 277
Index and basket	**(1,139)**	1,333
Tranched index and basket	**(450)**	(251)
Total	**$ (2,312)**	$ 1,359

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.

The fair value amounts as shown in the previous tables are prior to cash collateral or counterparty netting.

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.

6. Investment Securities

AFS and HTM Securities

$ in millions	At December 31, 2019 Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
AFS securities				
U.S. government and agency securities:				
U.S. Treasury securities	**$ 32,465**	**$ 224**	**$ 111**	**$ 32,578**
U.S. agency securities[1]	**20,725**	**249**	**100**	**20,874**
Total U.S. government and agency securities	**53,190**	**473**	**211**	**53,452**
Corporate and other debt:				
Agency CMBS	**4,810**	**55**	**57**	**4,808**
Corporate bonds	**1,891**	**17**	**1**	**1,907**
State and municipal securities	**481**	**22**	**—**	**503**
FFELP student loan ABS[2]	**1,580**	**1**	**28**	**1,553**
Total corporate and other debt	**8,762**	**95**	**86**	**8,771**
Total AFS securities	**61,952**	**568**	**297**	**62,223**
HTM securities				
U.S. government and agency securities:				
U.S. Treasury securities	**30,145**	**568**	**52**	**30,661**
U.S. agency securities[1]	**12,589**	**151**	**57**	**12,683**
Total U.S. government and agency securities	**42,734**	**719**	**109**	**43,344**
Corporate and other debt:				
Non-agency CMBS	**768**	**22**	**1**	**789**
Total HTM securities	**43,502**	**741**	**110**	**44,133**
Total investment securities	**$ 105,454**	**$ 1,309**	**$ 407**	**$ 106,356**

$ 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

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.

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Investment Securities in an Unrealized Loss Position

	At December 31, 2019					
	Less than 12 Months		12 Months or Longer		Total	
$ in millions	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	$ 4,793	$ 28	$ 7,904	$ 83	$ 12,697	$ 111
U.S. agency securities	2,641	20	7,697	80	10,338	100
Total U.S. government and agency securities	7,434	48	15,601	163	23,035	211
Corporate and other debt:						
Agency CMBS	2,294	26	681	31	2,975	57
Corporate bonds	194	1	44	—	238	1
FFELP student loan ABS	91	—	1,165	28	1,256	28
Total corporate and other debt	2,579	27	1,890	59	4,469	86
Total AFS securities	10,013	75	17,491	222	27,504	297
HTM securities						
U.S. government and agency securities:						
U.S. Treasury securities	6,042	52	651	—	6,693	52
U.S. agency securities	2,524	18	2,420	39	4,944	57
Total U.S. government and agency securities	8,566	70	3,071	39	11,637	109
Corporate and other debt:						
Non-agency CMBS	167	1	65	—	232	1
Total HTM securities	8,733	71	3,136	39	11,869	110
Total investment securities	$ 18,746	$ 146	$ 20,627	$ 261	$ 39,373	$ 407

	At December 31, 2018					
	Less than 12 Months		12 Months or Longer		Total	
$ in millions	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

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 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 both AFS and HTM securities, the securities have not experienced credit losses as the unrealized losses reported in the previous table are primarily due to higher interest rates since those securities were purchased.

See Note 14 for additional information on securities issued by VIEs, including U.S. agency mortgage-backed securities, non-agency CMBS and FFELP student loan ABS.

Investment Securities by Contractual Maturity

	At December 31, 2019		
$ 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	$ 2,293	$ 2,302	2.2%
After 1 year through 5 years	25,919	26,037	1.8%
After 5 years through 10 years	4,253	4,239	1.7%
Total	32,465	32,578	
U.S. agency securities:			
Due within 1 year	310	310	1.0%
After 1 year through 5 years	362	359	1.4%
After 5 years through 10 years	1,380	1,373	1.8%
After 10 years	18,673	18,832	2.4%
Total	20,725	20,874	
Total U.S. government and agency securities	53,190	53,452	2.0%
Corporate and other debt:			
Agency CMBS:			
After 1 year through 5 years	606	603	1.8%
After 5 years through 10 years	3,280	3,305	2.5%
After 10 years	924	900	2.0%
Total	4,810	4,808	
Corporate bonds:			
Due within 1 year	43	43	1.7%
After 1 year through 5 years	1,448	1,462	2.6%
After 5 years through 10 years	400	402	2.9%
Total	1,891	1,907	
State and municipal securities:			
After 1 year through 5 years	36	37	3.1%
After 5 years through 10 years	71	72	2.2%
After 10 years	374	394	4.7%
Total	481	503	
FFELP student loan ABS:			
After 1 year through 5 years	71	69	0.8%
After 5 years through 10 years	377	367	0.8%
After 10 years	1,132	1,117	1.2%
Total	1,580	1,553	
Total corporate and other debt	8,762	8,771	2.2%
Total AFS securities	61,952	62,223	2.0%
HTM securities			
U.S. government and agency securities:			
U.S. Treasury securities:			
Due within 1 year	$ 2,436	$ 2,452	2.5%
After 1 year through 5 years	18,026	18,254	2.1%
After 5 years through 10 years	8,600	8,842	2.2%
After 10 years	1,083	1,113	2.5%
Total	30,145	30,661	
U.S. agency securities:			
After 5 years through 10 years	46	45	1.8%
After 10 years	12,543	12,638	2.6%
Total	12,589	12,683	
Total U.S. government and agency securities	42,734	43,344	2.3%
Corporate and other debt:			
Non-agency CMBS:			
Due within 1 year	91	91	4.9%
After 1 year through 5 years	125	125	5.5%
After 5 years through 10 years	514	532	5.3%
After 10 years	38	41	2.1%
Total corporate and other debt	768	789	4.0%
Total HTM securities	43,502	44,133	2.3%
Total investment securities	$ 105,454	$ 106,356	2.2%

Gross Realized Gains (Losses) on Sales of AFS Securities

$ in millions	2019	2018	2017
Gross realized gains	$ 113	$ 12	$ 46
Gross realized (losses)	(10)	(4)	(11)
Total[1]	$ 103	$ 8	$ 35

1. Realized gains and losses are recognized in Other revenues in the income statements.

7. 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 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 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).

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 margin requirements. 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 and also considers the quality of collateral when negotiating collateral eligibility with counterparties. 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, 2019				
$ in millions	Gross Amounts	Amounts Offset	Balance Sheet Net Amounts	Amounts Not Offset[1]	Net Amounts
Assets					
Securities purchased under agreements to resell	**$ 247,545**	**$ (159,321)**	**$ 88,224**	**$ (85,200)**	**$ 3,024**
Securities borrowed	**109,528**	**(2,979)**	**106,549**	**(101,850)**	**4,699**
Liabilities					
Securities sold under agreements to repurchase	**$ 213,519**	**$ (159,319)**	**$ 54,200**	**$ (44,549)**	**$ 9,651**
Securities loaned	**11,487**	**(2,981)**	**8,506**	**(8,324)**	**182**
Net amounts for which master netting agreements are not in place or may not be legally enforceable					
Securities purchased under agreements to resell					**$ 2,255**
Securities borrowed					**1,181**
Securities sold under agreements to repurchase					**8,033**
Securities loaned					**101**

	At December 31, 2018				
$ in millions	Gross Amounts	Amounts Offset	Balance Sheet Net Amounts	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

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 5.

Gross Secured Financing Balances by Remaining Contractual Maturity

	At December 31, 2019				
$ in millions	Overnight and Open	Less than 30 Days	30-90 Days	Over 90 Days	Total
Securities sold under agreements to repurchase	$ 67,158	$ 81,300	$ 26,904	$ 38,157	$ 213,519
Securities loaned	2,378	3,286	516	5,307	11,487
Total included in the offsetting disclosure	$ 69,536	$ 84,586	$ 27,420	$ 43,464	$ 225,006
Trading liabilities—Obligation to return securities received as collateral	23,877	—	—	—	23,877
Total	$ 93,413	$ 84,586	$ 27,420	$ 43,464	$ 248,883

	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

Gross Secured Financing Balances by Class of Collateral Pledged

$ in millions	At December 31, 2019	At December 31, 2018
Securities sold under agreements to repurchase		
U.S. Treasury and agency securities	$ 68,895	$ 68,487
State and municipal securities	905	925
Other sovereign government obligations	109,414	120,432
ABS	2,218	3,017
Corporate and other debt	6,066	8,719
Corporate equities	25,563	12,079
Other	458	554
Total	$ 213,519	$ 214,213
Securities loaned		
Other sovereign government obligations	$ 3,026	$ 19,021
Corporate equities	8,422	10,800
Other	39	485
Total	$ 11,487	$ 30,306
Total included in the offsetting disclosure	$ 225,006	$ 244,519
Trading liabilities—Obligation to return securities received as collateral		
Corporate equities	$ 23,873	$ 17,594
Other	4	—
Total	$ 23,877	$ 17,594
Total	$ 248,883	$ 262,113

Carrying Value of Assets Loaned or Pledged without Counterparty Right to Sell or Repledge

$ in millions	At December 31, 2019	At December 31, 2018
Trading assets	$ 41,201	$ 39,430
Loans (gross of allowance for loan losses)	750	—
Total	$ 41,951	$ 39,430

The Firm pledges certain of 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, 2019	At December 31, 2018
Collateral received with right to sell or repledge	$ 679,280	$ 639,610
Collateral that was sold or repledged[1]	539,412	487,983

1. Does not include securities used to meet federal regulations for the Firm's U.S. broker-dealers.

Restricted Cash and Segregated Securities

$ in millions	At December 31, 2019	At December 31, 2018
Restricted cash	$ 32,512	$ 35,356
Segregated securities[1]	25,061	26,877
Total	$ 57,573	$ 62,233

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 this collateral 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, 2019	At December 31, 2018
U.S. government and agency securities and other sovereign government obligations		
Trading assets[1]	**10%**	12%
Off balance sheet—Collateral received[2]	**12%**	17%

1. Other sovereign government obligations included in Trading assets primarily consist of the U.K., Japan and Australia at December 31, 2019, and UK., Japan and Brazil at December 31, 2018.
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, 2019	At December 31, 2018
Customer receivables representing margin loans	**$ 31,916**	$ 26,225

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, which includes 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 the amount of collateral, as well as 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 12 and 14).

8. Loans, Lending Commitments and Allowance for Credit Losses

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, secured lending facilities, and securities-based lending. 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. 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.

- *Commercial Real Estate*. Commercial real estate loans include owner-occupied loans and income-producing loans. The principal risk factors for determining the allowance for commercial real estate loans are the underlying collateral type, loan-to-value ratio and debt service ratio.

Loans by Type

	At December 31, 2019		
$ in millions	Loans Held for Investment	Loans Held for Sale	Total Loans
Corporate	**$ 48,756**	**$ 10,515**	**$ 59,271**
Consumer	**31,610**	**—**	**31,610**
Residential real estate	**30,184**	**13**	**30,197**
Commercial real estate[1]	**7,859**	**2,049**	**9,908**
Total loans, gross	**118,409**	**12,577**	**130,986**
Allowance for loan losses	**(349)**	**—**	**(349)**
Total loans, net	**$ 118,060**	**$ 12,577**	**$ 130,637**
Fixed rate loans, net			**$ 22,716**
Floating or adjustable rate loans, net			**107,921**
Loans to non-U.S. borrowers, net			**21,617**

	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
Commercial real estate[1]	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

1. Beginning in 2019, loans previously referred to as Wholesale real estate are referred to as Commercial real estate.

See Note 3 for further information regarding Loans and lending commitments held at fair value. See Note 13 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 commercial 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 commercial 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[1]

$ in millions	Corporate	Consumer	Residential Real Estate	Commercial Real Estate	Total
	At December 31, 2019				
Pass	**$ 47,681**	**$ 31,605**	**$ 30,060**	**$ 7,664**	**$ 117,010**
Special mention	**464**	**—**	**28**	**3**	**495**
Substandard	**605**	**5**	**96**	**192**	**898**
Doubtful	**6**	**—**	**—**	**—**	**6**
Total	**$ 48,756**	**$ 31,610**	**$ 30,184**	**$ 7,859**	**$ 118,409**

$ in millions	Corporate	Consumer	Residential Real Estate	Commercial Real Estate	Total
	At December 31, 2018				
Pass	$ 36,217	$ 27,863	$ 27,387	$ 7,378	$ 98,845
Special mention	492	5	—	312	809
Substandard	200	—	79	120	399
Doubtful	—	—	—	—	—
Total	$ 36,909	$ 27,868	$ 27,466	$ 7,810	$ 100,053

1. There were no loans held for investment considered Loss as of December 31, 2019 and 2018.

Impaired Loans and Lending Commitments before Allowance

$ in millions	Corporate	Consumer	Residential Real Estate	Commercial Real Estate	Total
	At December 31, 2019				
Loans					
With allowance	**$ 268**	**$ —**	**$ —**	**$ 85**	**$ 353**
Without allowance[1]	**32**	**5**	**87**	**—**	**124**
Total impaired loans	**$ 300**	**$ 5**	**$ 87**	**$ 85**	**$ 477**
UPB	**309**	**5**	**90**	**85**	**489**
Lending commitments					
With allowance	**$ 4**	**$ —**	**$ —**	**$ 14**	**$ 18**
Without allowance[1]	**32**	**—**	**—**	**—**	**32**
Total impaired lending commitments	**$ 36**	**$ —**	**$ —**	**$ 14**	**$ 50**

$ in millions	Corporate	Consumer	Residential Real Estate	Commercial Real Estate	Total
	At December 31, 2018				
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

1. At December 31, 2019 and December 31, 2018, 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

$ in millions	Americas	EMEA	Asia	Total
	At December 31, 2019			
Impaired loans	**$ 392**	**$ 85**	**$ —**	**$ 477**
Total Allowance for loan losses	**270**	**76**	**3**	**349**

$ in millions	Americas	EMEA	Asia	Total
	At December 31, 2018			
Impaired loans	$ 125	$ —	$ —	$ 125
Total Allowance for loan losses	193	42	3	238

Troubled Debt Restructurings

$ in millions	**At December 31, 2019**	At December 31, 2018
Loans	**$ 92**	$ 38
Lending commitments	**32**	45
Allowance for loan losses and lending commitments	**16**	4

Impaired loans and lending commitments classified as held for investment within corporate loans include TDRs. 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	Commercial Real Estate	Total
December 31, 2018	$ 144	$ 7	$ 20	$ 67	$ 238
Gross charge-offs	—	—	(2)	—	(2)
Recoveries	—	—	—	—	—
Net recoveries (charge-offs)	—	—	(2)	—	(2)
Provision (release)	**104**	**1**	**7**	**8**	**120**
Other	**(7)**	—	—	—	**(7)**
December 31, 2019	**$ 241**	**$ 8**	**$ 25**	**$ 75**	**$ 349**
Inherent	**$ 212**	**$ 8**	**$ 25**	**$ 73**	**$ 318**
Specific	**29**	—	—	**2**	**31**

$ in millions	Corporate	Consumer	Residential Real Estate	Commercial Real Estate	Total
December 31, 2017	$ 126	$ 4	$ 24	$ 70	$ 224
Gross charge-offs	(5)	—	(1)	—	(6)
Recoveries	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	Commercial 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

1. During 2018, the release was primarily due to the recovery of an energy industry related loan charged off in 2017.

Allowance for Lending Commitments Rollforward

$ in millions	Corporate	Consumer	Residential Real Estate	Commercial Real Estate	Total
December 31, 2018	$ 198	$ 2	$ —	$ 3	$ 203
Provision (release)	**38**	—	—	**4**	**42**
Other	**(4)**	—	—	—	**(4)**
December 31, 2019	**$ 232**	**$ 2**	**$ —**	**$ 7**	**$ 241**
Inherent	**$ 230**	**$ 2**	**$ —**	**$ 7**	**$ 239**
Specific	**2**	—	—	—	**2**

$ in millions	Corporate	Consumer	Residential Real Estate	Commercial 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	Commercial 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

Employee Loans

$ in millions	**At December 31, 2019**	At December 31, 2018
Balance	**$ 2,980**	$ 3,415
Allowance for loan losses	**(61)**	(63)
Balance, net	**$ 2,919**	$ 3,352
Remaining repayment term, weighted average in years	**4.8**	4.3

Employee loans are granted in conjunction with a program established primarily to 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.

9. Goodwill and Intangible Assets

Goodwill Rollforward

$ in millions	IS	WM	IM	Total
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
Foreign currency and other	**(13)**	**(1)**	**—**	**(14)**
Acquired[2]	**—**	**469**	**—**	**469**
At December 31, 2019[1]	**$ 261**	**$ 6,001**	**$ 881**	**$ 7,143**
Accumulated impairments[3]	$ 673	$ —	$ 27	$ 700

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

1. Balances represent the amount of the Firm's goodwill after accumulated impairments.
2. Amounts reflect the impact of the Firm's acquisition of Solium Capital Inc. in the second quarter of 2019.
3. Accumulated impairments were recorded prior to the periods shown. There were no impairments recorded in 2019, 2018 or 2017.

The Firm's annual goodwill impairment testing as of July 1, 2019 and 2018 did not indicate any goodwill impairment, as reporting units with goodwill had a fair value that was substantially in excess of carrying value.

Net Amortizable Intangible Assets Rollforward[1]

$ in millions	IS	WM	IM	Total
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
Acquired[2]	**3**	**270**	**—**	**273**
Disposals	**(29)**	**—**	**—**	**(29)**
Amortization expense	**(35)**	**(271)**	**(8)**	**(314)**
Other	**18**	**1**	**—**	**19**
At December 31, 2019	**$ 227**	**$ 1,828**	**$ 52**	**$ 2,107**

Gross Amortizable Intangible Assets by Type[1]

	At December 31, 2019		At December 31, 2018	
$ in millions	Gross Carrying Amount	Accumulated Amortization	Gross Carrying Amount	Accumulated Amortization
Tradenames	**$ 291**	**$ 71**	$ 286	$ 60
Customer relationships	**4,321**	**2,703**	4,067	2,446
Management contracts	**482**	**327**	507	311
Other	**217**	**103**	175	60
Total	**$ 5,311**	**$ 3,204**	$ 5,035	$ 2,877
Estimated annual amortization expense for the next five years				**$ 307**

1. Amounts exclude $5 million of mortgage servicing rights in 2018.
2. Amounts principally reflect the impact of the Firm's acquisition of Solium Capital Inc. in the second quarter of 2019.

10. Other Assets—Equity Method Investments and Leases

Equity Method Investments

$ in millions	**At December 31, 2019**	At December 31, 2018
Investments	**$ 2,363**	$ 2,432

$ in millions	**2019**	2018	2017
Income (loss)[1]	**$ (81)**	$ 20	$ (34)

1. Includes impairments of the Investment Management business segment's equity method investments as follows: in 2019, $41 million related to a third-party asset manager; in 2018 and 2017, $46 million and $53 million, respectively, related to a separate third-party asset manager.

Equity method investments, other than investments in certain fund interests, are summarized above and are included in Other assets in the balance sheets with related income or loss included in Other revenues in the income statements. See "Net Asset Value Measurements—Fund Interests" in Note 3 for the carrying value of certain of the Firm's fund interests, which are composed of general and limited partnership interests, as well as any related carried interest.

Japanese Securities Joint Venture

$ in millions	**2019**	2018	2017
Income from investment in MUMSS	**$ 17**	$ 105	$ 123

The Firm and Mitsubishi UFJ Financial Group, Inc. ("MUFG") formed a joint venture in Japan comprising their respective investment banking and securities businesses by forming two joint venture companies, Mitsubishi UFJ Morgan Stanley Securities Co., Ltd. ("MUMSS") and Morgan Stanley MUFG Securities Co., Ltd. ("MSMS") (the "Joint Venture"). The Firm owns a 40% economic interest in the Joint Venture and MUFG owns the other 60%.

The Firm's 40% voting interest in MUMSS is accounted for under the equity method within the Institutional Securities business segment, and is included in the equity method investment balances above. The Firm consolidates MSMS into the Institutional Securities business segment, based on its 51% voting interest.

The Firm engages in transactions in the ordinary course of business with MUFG and its affiliates; for example, investment banking, financial advisory, sales and trading, derivatives, investment management, lending, securitization and other financial services transactions. Such transactions are on substantially the same terms as those that would be available to unrelated third parties for comparable transactions.

Leases

The Firm's leases are principally non-cancelable operating real estate leases.

Balance Sheet Amounts Related to Leases

$ in millions		At December 31, 2019
Other assets—ROU assets	$	3,998
Other liabilities and accrued expenses—Lease liabilities		4,778
Weighted average:		
Remaining lease term, in years		9.7
Discount rate		3.6%

Lease Liabilities

$ in millions		At December 31, 2019
2020	$	763
2021		703
2022		646
2023		593
2024		524
Thereafter		2,845
Total undiscounted cash flows		6,074
Imputed interest		(1,296)
Amount on balance sheet	$	4,778
Committed leases not yet commenced	$	55

Lease Costs

$ in millions		2019
Fixed costs	$	670
Variable costs[1]		152
Less: Sublease income		(6)
Total lease cost, net	$	816

1. Includes common area maintenance charges and other variable costs not included in the measurement of ROU assets and lease liabilities.

Cash Flows Statement Supplemental Information

$ in millions		2019
Cash outflows—Lease liabilities	$	685
Non-cash—ROU assets recorded for new and modified leases		514

Minimum Future Lease Commitments (under Previous GAAP)

$ 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
Rent expense	753	704

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.

11. Deposits

Deposits

$ in millions		At December 31, 2019		At December 31, 2018
Savings and demand deposits	$	149,465	$	154,897
Time deposits		40,891		32,923
Total	$	190,356	$	187,820
Deposits subject to FDIC insurance	$	149,966	$	144,515
Time deposits that equal or exceed the FDIC insurance limit	$	12	$	11

Time Deposit Maturities

$ in millions		At December 31, 2019
2020	$	20,481
2021		10,567
2022		3,507
2023		3,231
2024		2,465
Thereafter		640
Total	$	40,891

12. Borrowings and Other Secured Financings

Maturities and Terms of Borrowings

$ in millions	Parent Company Fixed Rate	Parent Company Variable Rate[1]	Subsidiaries Fixed Rate	Subsidiaries Variable Rate[1]	At December 31, 2019	At December 31, 2018
Original maturities of one year or less:						
Next 12 months[2]	$ 500	$ —	$ —	$ 2,067	$ 2,567	$ 1,545
Original maturities greater than one year:						
2019	$ —	$ —	$ —	$ —	$ —	$ 24,694
2020	10,909	4,319	14	5,160	20,402	21,280
2021	13,616	7,823	18	4,628	26,085	24,642
2022	6,576	9,508	16	3,788	19,888	16,785
2023	8,632	3,147	14	2,822	14,615	13,938
2024	13,360	2,028	14	5,704	21,106	16,405
Thereafter	52,941	14,436	125	20,462	87,964	70,373
Total	$ 106,034	$ 41,261	$ 201	$ 42,564	$ 190,060	$ 188,117
Total borrowings	$ 106,534	$ 41,261	$ 201	$ 44,631	$ 192,627	$ 189,662
Weighted average coupon at period end[3]	3.6%	2.1%	6.6%	N/M	3.4%	3.5%

1. Variable rate borrowings bear interest based on a variety of indices, including LIBOR, federal funds rates and SOFR. 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. The amount shown for the Parent Company represents amounts due to holders of the Firm's Series G preferred stock for which a notice of redemption was issued. See Note 16 for further information.
3. Only includes 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, 2019	At December 31, 2018
Senior	$ 179,519	$ 178,027
Subordinated	10,541	10,090
Total	$ 190,060	$ 188,117
Weighted average stated maturity, in years	6.9	6.5

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.

The Firm's Borrowings also 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 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 4 for further information on borrowings carried at fair value.

Senior Debt Subject to Put Options or Liquidity Obligations

$ in millions	At December 31, 2019	At December 31, 2018
Put options embedded in debt agreements	$ 290	$ 520
Liquidity obligations[1]	$ 1,344	$ 1,284

1. Includes obligations to support secondary market trading.

Subordinated Debt

	2019	2018
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.

Rates for Borrowings with Original Maturities Greater than One Year

	At December 31, 2019	2018	2017
Contractual weighted average coupon[1]	3.4%	3.5%	3.3%
Effective weighted average coupon after swaps	2.9%	3.6%	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.

In general, other than securities inventories and customer balances 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.

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Other Secured Financings

$ in millions	At December 31, 2019	At December 31, 2018
Original maturities:		
One year or less	**7,103**	2,036
Greater than one year	**6,480**	6,772
Transfers of assets accounted for as secured financings	**1,115**	658
Total	**$ 14,698**	$ 9,466

Maturities and Terms of Other Secured Financings

$ in millions	At December 31, 2019 Fixed Rate	Variable Rate[1]	Total	At December 31, 2018
Original maturities of one year or less:				
Next 12 months	**$ 2,785**	**$ 4,318**	**$ 7,103**	$ 2,036
Original maturities greater than one year:				
2019	**$ —**	**$ —**	**$ —**	$ 5,900
2020	**764**	**899**	**1,663**	599
2021	**698**	**412**	**1,110**	1
2022	**227**	**—**	**227**	86
2023	**—**	**2,655**	**2,655**	26
2024	**—**	**12**	**12**	12
Thereafter	**356**	**457**	**813**	148
Total	**$ 2,045**	**$ 4,435**	**$ 6,480**	$ 6,772
Weighted average coupon at period-end[2]	**0.8%**	**2.5%**	**2.4%**	2.5%

1. Variable rate other secured financings 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 other 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 14 for further information on other secured financings related to VIEs and securitization activities.

Maturities of Transfers of Assets Accounted for as Secured Financings[1]

$ in millions	At December 31, 2019	At December 31, 2018
2019	**$ —**	$ 40
2020	**208**	62
2021	**225**	29
2022	**46**	33
2023	**334**	—
2024	**—**	—
Thereafter	**302**	494
Total	**$ 1,115**	$ 658

1. Excludes Securities sold under agreements to repurchase and Securities loaned.

For transfers of assets that fail to meet accounting criteria for a sale, the Firm continues to record the assets and recognizes the associated liabilities in the balance sheets.

13. Commitments, Guarantees and Contingencies

Commitments

$ in millions	Years to Maturity at December 31, 2019 Less than 1	1-3	3-5	Over 5	Total
Lending:					
Corporate	**$ 23,507**	**$ 34,542**	**$ 47,924**	**$ 5,110**	**$ 111,083**
Consumer	**7,835**	**28**	**4**	**—**	**7,867**
Residential and Commercial real estate	**379**	**378**	**88**	**273**	**1,118**
Forward-starting secured financing receivables	**63,313**	**223**	**—**	**11,601**	**75,137**
Underwriting	**637**	**—**	**—**	**—**	**637**
Investment activities	**706**	**275**	**60**	**262**	**1,303**
Letters of credit and other financial guarantees	**186**	**2**	**—**	**2**	**190**
Total	**$ 96,563**	**$ 35,448**	**$ 48,076**	**$ 17,248**	**$ 197,335**
Corporate lending commitments participated to third parties					**$ 8,003**
Forward-starting secured financing receivables settled within three business days of the balance sheet date					**$ 52,438**

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.

Guarantees

Obligations under Guarantee Arrangements at December 31, 2019

	Maximum Potential Payout/Notional				
	Years to Maturity				
$ in millions	Less than 1	1-3	3-5	Over 5	Total
Credit derivatives	$ 36,334	$ 37,080	$ 111,758	$ 30,547	$ 215,719
Other credit contracts	—	—	—	117	117
Non-credit derivatives	1,590,947	1,240,195	393,248	699,043	3,923,433
Standby letters of credit and other financial guarantees issued[1]	1,282	836	1,386	4,201	7,705
Market value guarantees	76	82	—	—	158
Liquidity facilities	4,599	—	—	—	4,599
Whole loan sales guarantees	—	—	—	23,196	23,196
Securitization representations and warranties	—	—	—	67,928	67,928
General partner guarantees	59	128	12	71	270
Client clearing guarantees	18,565	—	—	—	18,565

$ in millions	Carrying Amount Asset (Liability)
Credit derivatives[2]	$ 1,703
Other credit contracts	(17)
Non-credit derivatives[2]	(45,794)
Standby letters of credit and other financial guarantees issued[1]	226
Market value guarantees	—
Liquidity facilities	6
Whole loan sales guarantees	—
Securitization representations and warranties[3]	(42)
General partner guarantees	(42)
Client clearing guarantees	—

1. These amounts include certain issued standby letters of credit participated to third parties, totaling $0.7 billion of notional and collateral/recourse, due to the nature of the Firm's obligations under these arrangements.
2. The carrying amounts of derivative contracts that meet the accounting definition of a guarantee are shown on a gross basis.
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 5 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. The Firm evaluates collateral requirements for all derivatives, including derivatives that do not meet the accounting definition of a guarantee. For the effects of cash collateral and counterparty netting, see Note 5.

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. If the counterparty fails to fulfill its contractual obligation, the Firm has access to collateral or recourse that would approximate its obligation.

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. The recourse amount often exceeds the maximum potential payout amount of the guarantee. Substantially 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 when the return exceeds specified performance targets 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.

Client Clearing Guarantees. In 2019, the Firm became a sponsoring member of the Government Securities Division of the FICC's Sponsored Clearing Model. Clients of the Firm, as sponsored members, can transact in overnight securities repurchase and resale agreements, which are cleared through FICC. As sponsoring member, the Firm guarantees to FICC the prompt and full payment and performance of its clients' obligations. The amount included in the previous table represents the maximum potential payout the Firm could be responsible for through the guarantee it provides. The Firm minimizes credit exposure under this guarantee by obtaining a security interest in its sponsored member clients' collateral and their contractual rights under sponsored member transactions. Therefore, the Firm's exposure is estimated to be an amount substantially lower than the maximum potential payout amount. The collateral amount in which the Firm has a security interest is approximately equal to the maximum potential payout amount of the guarantee.

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 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	**2019**	2018	2017
Legal expenses	**$ 221**	$ 206	$ 342

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. 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 March 7, 2019, the court denied the relief that CDIB sought in a motion to clarify and resettle the portion of the court's December 21, 2018 order granting spoliation sanctions. On December 5, 2019, the Appellate Division, First Department ("First Department") heard the parties' cross appeals. 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 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 April 4, 2019, the court denied the Firm's 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 23, 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 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 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 First Department denied plaintiff's motion for leave to appeal its decision to the New York Court of Appeals ("Court of Appeals") or, in the alternative, for re-argument. 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 Court of Appeals in another case, styled *Deutsche Bank National Trust Company v. Barclays Bank PLC*, regarding the applicable statute of limitations. 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 June 4, 2019, the First Department granted the Firm's motion for leave to appeal to the Court of Appeals. 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.

Tax

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 $139 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*. On June 26 and July 2, 2019, a hearing of the Dutch Authority's appeal was held. Based on currently available information, the Firm believes that it could incur a loss in this action of up to approximately €124 million (approximately $139 million) plus accrued interest.

14. 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 VIE Assets and Liabilities by Type of Activity

	At December 31, 2019		At December 31, 2018	
$ in millions	VIE Assets	VIE Liabilities	VIE Assets	VIE Liabilities
OSF	$ 696	$ 391	$ 267	$ —
MABS[1]	265	4	59	38
Other[2]	987	66	809	48
Total	$ 1,948	$ 461	$ 1,135	$ 86

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. and may be in loan or security form. 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 operating entities, investment funds and structured transactions.

Consolidated VIE Assets and Liabilities by Balance Sheet Caption

$ in millions	At December 31, 2019	At December 31, 2018
Assets		
Cash and cash equivalents:		
Cash and due from banks	$ 315	$ 77
Restricted cash	173	171
Trading assets at fair value	943	314
Customer and other receivables	18	25
Goodwill	—	18
Intangible assets	111	128
Other assets	388	402
Total	$ 1,948	$ 1,135
Liabilities		
Other secured financings	$ 422	$ 64
Other liabilities and accrued expenses	39	22
Total	$ 461	$ 86
Noncontrolling interests	$ 192	$ 106

Consolidated VIE assets and liabilities are presented in the previous tables after intercompany eliminations. Generally, most assets owned by consolidated VIEs cannot be removed unilaterally by the Firm and are not available to the Firm while the related liabilities issued by consolidated VIEs are non-recourse to the Firm. However, in certain 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, 2019				
$ in millions	MABS[1]	CDO	MTOB	OSF	Other[2]
VIE assets (UPB)	$ 125,603	$ 2,976	$ 6,965	$ 2,288	$ 51,305
Maximum exposure to loss[3]					
Debt and equity interests	$ 16,314	$ 240	$ —	$ 1,009	$ 11,977
Derivative and other contracts	—	—	4,599	—	2,995
Commitments, guarantees and other	631	—	—	—	266
Total	$ 16,945	$ 240	$ 4,599	$ 1,009	$ 15,238
Carrying value of variable interests—Assets					
Debt and equity interests	$ 16,314	$ 240	$ —	$ 1,008	$ 11,977
Derivative and other contracts	—	—	6	—	388
Total	$ 16,314	$ 240	$ 6	$ 1,008	$ 12,365
Additional VIE assets owned[4]					$ 11,453
Carrying value of variable interests—Liabilities					
Derivative and other contracts	$ —	$ —	$ —	$ —	$ 444

$ in millions	At December 31, 2018[5] MABS[1]	CDO	MTOB	OSF	Other[2]
VIE assets (UPB)	$ 106,197	$ 10,848	$ 7,014	$ 3,314	$ 38,603
Maximum exposure to loss[3]					
Debt and equity interests	$ 15,671	$ 1,169	$ —	$ 1,622	$ 7,967
Derivative and other contracts	—	—	4,449	—	1,768
Commitments, guarantees and other	1,073	3	—	235	509
Total	$ 16,744	$ 1,172	$ 4,449	$ 1,857	$ 10,244
Carrying value of variable interests—Assets					
Debt and equity interests	$ 15,671	$ 1,169	$ —	$ 1,205	$ 7,967
Derivative and other contracts	—	—	6	—	87
Total	$ 15,671	$ 1,169	$ 6	$ 1,205	$ 8,054
Additional VIE assets owned[4]					$ 12,059
Carrying value of variable interests—Liabilities					
Derivative and other contracts	$ —	$ —	$ —	$ —	$ 185

MTOB—Municipal tender option bonds

1. Amounts include transactions backed by residential mortgage loans, commercial mortgage loans and other types of assets, including consumer or commercial assets. and may be in loan or security form.
2. Other primarily includes exposures to commercial real estate property and investment funds.
3. 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.
4. 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.
5. The carrying value and maximum exposure to loss of variable interests related to MABS and Other have been revised to reflect the addition of approximately $11 billion in loans to VIEs that were previously excluded. The VIE asset (UPB) amounts have also been revised by approximately $54 billion. This disclosure-only revision did not impact the Firm's balance sheets.

The majority of the VIEs included in the previous tables are sponsored by unrelated parties; examples of the Firm's involvement with these VIEs include its secondary market-making activities and the securities held in its Investment securities portfolio (see Note 6).

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 the notional amounts of certain liquidity facilities and other credit support, total return swaps and written put options, as well as the 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.

Detail of Mortgage- and Asset-Backed Securitization Assets

$ in millions	**At December 31, 2019** UPB	Debt and Equity Interests	At December 31, 2018[1] UPB	Debt and Equity Interests
Residential mortgages	**$ 30,353**	**$ 3,993**	$ 27,594	$ 4,581
Commercial mortgages	**53,892**	**3,881**	55,501	4,327
U.S. agency collateralized mortgage obligations	**36,366**	**6,365**	14,969	3,443
Other consumer or commercial loans	**4,992**	**2,075**	8,133	3,320
Total	**$ 125,603**	**$ 16,314**	$ 106,197	$ 15,671

1. The balances as of December 31, 2018 were revised as noted in the Non-consolidated VIEs table herein.

Securitization Activities

In a securitization transaction, the Firm transfers assets (generally commercial or residential mortgage loans or 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 addition, mainly in securitization transactions involving residential mortgage loans, the Firm may also enter 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 5 for further information on derivative instruments and hedging activities.

Investment Securities

The Firm holds securities issued by VIEs within the Investment securities portfolio. These securities are composed of those related to transactions sponsored by the federal mortgage agencies and predominantly the most senior securities issued by VIEs backed by student loans and commercial mortgage loans.

Transactions sponsored by the federal mortgage agencies include an explicit or implicit guarantee provided by the U.S. government. Additionally, the Firm holds certain commercial mortgage-backed securities issued by VIEs retained as a result of the Firm's securitization activities. See Note 6 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 most programs, a third-party provider will provide such liquidity facility; in some programs, the Firm provides this 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 assets. 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. Depending on the structure, the assets and liabilities of the SPE may be consolidated and recognized in the Firm’s balance sheets or accounted for as a sale of assets.

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.

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 issue multiple tranches of debt and equity securities to investors. The Firm underwrites the securities issued in certain 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, 2019 or December 31, 2018.

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Transferred Assets with Continuing Involvement[1]

$ in millions	At December 31, 2019[2] RML	CML	U.S. Agency CMO	CLN and Other[3]
SPE assets (UPB)[4]	**$ 9,850**	**$ 86,203**	**$ 19,132**	**$ 8,410**
Retained interests				
Investment grade	**$ 29**	**$ 720**	**$ 2,376**	**$ 1**
Non-investment grade	**17**	**254**	**—**	**92**
Total	**$ 46**	**$ 974**	**$ 2,376**	**$ 93**
Interests purchased in the secondary market				
Investment grade	**$ 6**	**$ 197**	**$ 77**	**$ —**
Non-investment grade	**75**	**51**	**—**	**—**
Total	**$ 81**	**$ 248**	**$ 77**	**$ —**
Derivative assets	**$ —**	**$ —**	**$ —**	**$ 339**
Derivative liabilities	**—**	**—**	**—**	**145**

$ in millions	December 31, 2018 RML	CML	U.S. Agency CMO	CLN and Other[3]
SPE assets (UPB)[4]	$ 14,376	$ 68,593	$ 16,594	$ 14,608
Retained interests				
Investment grade	$ 17	$ 483	$ 1,573	$ 3
Non-investment grade	4	212	—	210
Total	$ 21	$ 695	$ 1,573	$ 213
Interests purchased in the secondary market				
Investment grade	$ 7	$ 91	$ 102	$ —
Non-investment grade	28	71	—	—
Total	$ 35	$ 162	$ 102	$ —
Derivative assets	$ —	$ —	$ —	$ 216
Derivative liabilities	—	—	—	178

$ in millions	Fair Value at December 31, 2019 Level 2	Level 3	Total
Retained interests			
Investment grade	**$ 2,401**	**$ 4**	**$ 2,405**
Non-investment grade	**6**	**97**	**103**
Total	**$ 2,407**	**$ 101**	**$ 2,508**
Interests purchased in the secondary market			
Investment grade	**$ 278**	**$ 2**	**$ 280**
Non-investment grade	**68**	**58**	**126**
Total	**$ 346**	**$ 60**	**$ 406**
Derivative assets	**$ 337**	**$ 2**	**$ 339**
Derivative liabilities	**144**	**1**	**145**

$ in millions	Fair Value at December 31, 2018 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

RML—Residential mortgage loans
CML—Commercial mortgage loans
1. The Transferred Assets with Continuing Involvement tables include transactions with SPEs in which the Firm, acting as principal, transferred financial assets with continuing involvement and received sales treatment. See Note 12 for information on certain other transfers of assets to SPEs which are accounted for as financings.
2. As permitted by applicable guidance, certain transfers of assets where the Firm's only continuing involvement is a derivative are only reported in the following Assets Sold with Retained Exposure table, and are no longer also included in this table. At December 31, 2018 these transactions were included in CLN and Other and comprised approximately $8 billion in UPB, $20 million in Derivative assets and $119 million in Derivative liabilities.
3. Amounts include CLO transactions managed by unrelated third parties.
4. Amounts include assets transferred by unrelated transferors.

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. Fair value for these interests is measured using 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.

Proceeds from New Securitization Transactions and Sales of Loans

$ in millions	2019	2018	2017
New transactions[1]	**$ 34,464**	$ 23,821	$ 23,939
Retained interests	**7,403**	2,904	2,337
Sales of corporate loans to CLO SPEs[1, 2]	**2**	317	191

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 13).

Assets Sold with Retained Exposure

$ in millions	December 31, 2019	December 31, 2018
Gross cash proceeds from sale of assets[1]	$ 38,661	$ 27,121
Fair value		
Assets sold	$ 39,137	$ 26,524
Derivative assets recognized in the balance sheets	647	164
Derivative liabilities recognized in the balance sheets	152	763

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.

15. 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). Capital standards require certain adjustments to, and deductions from, capital for purposes of determining these ratios.

In addition to the minimum risk-based capital ratio requirements, the Firm is subject to the following buffers:

- 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, the requirement for each of these buffers was 75% of the fully phased-in 2019 requirement noted above.

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, 2019 and December 31, 2018, the Firm's risk-based capital ratios are based on the Standardized Approach rules.

Minimum leverage-based capital requirements include a Tier 1 leverage ratio and an SLR. The Firm is required to maintain a Tier 1 SLR of 5%, inclusive of an enhanced SLR capital buffer of at least 2%.

The Firm's Regulatory Capital and Capital Ratios

	At December 31, 2019		
$ in millions	Required Ratio[1]	Amount	Ratio
Risk-based capital			
Common Equity Tier 1 capital	10.0%	$ 64,751	16.4%
Tier 1 capital	11.5%	73,443	18.6%
Total capital	13.5%	82,708	21.0%
Total RWA		394,177	
Leverage-based capital			
Tier 1 leverage	4.0%	$ 73,443	8.3%
Adjusted average assets[2]		889,195	
SLR	5.0%	73,443	6.4%
Supplementary leverage exposure[3]		1,155,177	

$ in millions	At December 31, 2018 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	5.0%	70,619	6.5%
Supplementary leverage exposure[3]		1,092,672	

1. Required ratios are inclusive of any buffers applicable as of the date presented. For 2018, the required regulatory capital ratios for risk-based capital are under the transitional rules. 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.
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 for the quarters ending on the respective balance sheet dates, reduced by disallowed goodwill, intangible assets, investments in covered funds, defined benefit pension plan assets, after-tax gain on sale from assets sold into securitizations, investments in the Firm's own capital instruments, certain defined tax assets and other capital deductions.
3. Supplementary leverage exposure is the sum of Adjusted average assets used in the Tier 1 leverage ratio and other adjustments, primarily: (i) for derivatives, potential future exposure 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.

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, 2019 and December 31, 2018, the U.S. Bank Subsidiaries' risk-based capital ratios are based on the Standardized Approach rules. In each period, the ratios exceeded well-capitalized requirements.

MSBNA's Regulatory Capital

$ in millions	**At December 31, 2019** Required Ratio[1]	Amount	Ratio
Risk-based capital			
Common Equity Tier 1 capital	**6.5%**	**$ 15,919**	**18.5%**
Tier 1 capital	**8.0%**	**15,919**	**18.5%**
Total capital	**10.0%**	**16,282**	**18.9%**
Leverage-based capital			
Tier 1 leverage	**5.0%**	**$ 15,919**	**11.3%**
SLR	**6.0%**	**15,919**	**8.7%**

$ in millions	At December 31, 2018 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	6.0%	15,221	8.2%

MSPBNA's Regulatory Capital

$ in millions	**At December 31, 2019** Required Ratio[1]	Amount	Ratio
Risk-based capital			
Common Equity Tier 1 capital	**6.5%**	**$ 7,962**	**24.8%**
Tier 1 capital	**8.0%**	**7,962**	**24.8%**
Total capital	**10.0%**	**8,016**	**25.0%**
Leverage-based capital			
Tier 1 leverage	**5.0%**	**$ 7,962**	**9.9%**
SLR	**6.0%**	**7,962**	**9.4%**

$ in millions	At December 31, 2018 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	6.0%	7,183	9.6%

1. Ratios that are required in order to be considered well-capitalized for U.S. regulatory purposes.

U.S. Broker-Dealer Regulatory Capital Requirements

MS&Co. Regulatory Capital

$ in millions	**At December 31, 2019**	At December 31, 2018
Net capital	**$ 13,708**	$ 13,797
Excess net capital	**10,686**	11,333

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 Securities Exchange Act of 1934 ("Exchange Act") Rule 15c3-1, Appendix E, 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, 2019 and December 31, 2018, MS&Co. has exceeded its net capital requirement and has tentative net capital in excess of the minimum and notification requirements.

MSSB Regulatory Capital

$ in millions	**At December 31, 2019**	At December 31, 2018
Net capital	**$ 3,387**	$ 3,455
Excess net capital	**3,238**	3,313

MSSB 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 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, 2019**	At December 31, 2018
Restricted net assets	**$ 33,213**	$ 29,222

16. Total Equity

Morgan Stanley Shareholders' Equity

Common Stock

Rollforward of Common Stock Outstanding

in millions	**2019**	2018
Shares outstanding at beginning of period	**1,700**	1,788
Treasury stock purchases[1]	**(135)**	(110)
Other[2]	**29**	22
Shares outstanding at end of period	**1,594**	1,700

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	**2019**	2018
Repurchases of common stock under the Firm's Share Repurchase Program	**$ 5,360**	$ 4,860

The Firm's 2019 Capital Plan ("Capital Plan") includes the share repurchase of up to $6.0 billion of outstanding common stock for the period beginning July 1, 2019 through June 30, 2020. Additionally, the Capital Plan includes quarterly common stock dividends of up to $0.35 per share, beginning with the common stock dividend announced on July 18, 2019.

A portion of common stock repurchases was conducted under a sales plan with MUFG, whereby MUFG sold 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 has 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 non-objection.

Common Stock Dividends per Share

	2019	2018	2017
Dividends declared per common share	**$ 1.30**	$ 1.10	$ 0.90

Common Shares Outstanding for Basic and Diluted EPS

in millions	2019	2018	2017
Weighted average common shares outstanding, basic	**1,617**	1,708	1,780
Effect of dilutive Stock options, RSUs and PSUs	**23**	30	41
Weighted average common shares outstanding and common stock equivalents, diluted	**1,640**	1,738	1,821
Weighted average antidilutive common stock equivalents (excluded from the computation of diluted EPS)	**2**	1	—

Preferred Stock

$ in millions, except per share data	Shares Outstanding		Carrying Value	
	At December 31, 2019	Liquidation Preference per Share	**At December 31, 2019**	At December 31, 2018
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	**—**	**—**	**—**	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
L	**20,000**	**25,000**	**500**	—
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 in 2009.

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 and is included in Tier 1 capital in accordance with regulatory capital requirements (see Note 15).

On November 25, 2019, the Firm announced the redemption in whole of its outstanding Series G preferred stock. On notice of redemption, the amount due to holders of Series G Preferred Stock was reclassified to Borrowings, and on January 15, 2020 the redemption settled at the carrying value of $500 million.

Preferred Stock Issuance Description

			Redemption	
Series[1, 2]	Shares Issued	Depositary Shares per Share	Price per Share[3]	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
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
L[6]	20,000	1,000	25,000	January 15, 2025

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 L 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.
6. Series L Preferred Stock was issued on November 25, 2019.

Preferred Stock Dividends

	2019		2018		2017	
$ in millions, except per share data	Per Share[1]	Total	Per Share[1]	Total	Per Share[1]	Total
Series						
A	**$ 1,014**	**$ 44**	$ 1,011	$ 45	$ 1,014	$ 45
C	**100**	**52**	100	52	100	52
E	**1,781**	**60**	1,781	61	1,781	61
F	**1,719**	**60**	1,719	58	1,719	58
G[2]	**1,242**	**24**	1,656	33	1,656	33
H[3]	**1,418**	**74**	1,363	71	1,363	71
I	**1,594**	**64**	1,594	64	1,594	64
J[4]	**1,388**	**84**	1,388	83	1,388	83
K	**1,463**	**59**	1,463	59	1,402	56
L	**169**	**3**	—	—	—	—
Total		**$ 524**		$ 526		$ 523

1. Dividends on all series are payable quarterly, unless otherwise noted.
2. Dividends declared on Series G following the issuance of the notice of redemption were recognized as Interest expense and are excluded from 2019 amounts.
3. Series H was payable semiannually until July 15, 2019, and is now payable quarterly.
4. Series J is payable semiannually until July 15, 2020, and then quarterly thereafter.

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Comprehensive Income (Loss)

Accumulated Comprehensive Income (Loss)[1]

$ in millions	Foreign Currency Translation Adjustments	AFS Securities	Pensions, Postretirement and Other	DVA	Total
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 change[2]	(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)
OCI during the period	**(8)**	**1,137**	**(66)**	**(1,559)**	**(496)**
December 31, 2019	**$ (897)**	**$ 207**	**$ (644)**	**$ (1,454)**	**$ (2,788)**

1. Amounts are net of tax and noncontrolling interests.
2. 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 the 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

	2019				
$ in millions	Pre-tax Gain (Loss)	Income Tax Benefit (Provision)	After-tax Gain (Loss)	Non-controlling Interests	Net
Foreign currency translation adjustments					
OCI activity	**$ 6**	**$ (3)**	**$ 3**	**$ 11**	**$ (8)**
Reclassified to earnings	**—**	**—**	**—**	**—**	**—**
Net OCI	**$ 6**	**$ (3)**	**$ 3**	**$ 11**	**$ (8)**
Change in net unrealized gains (losses) on AFS securities					
OCI activity	**$ 1,588**	**$ (373)**	**$ 1,215**	**$ —**	**$ 1,215**
Reclassified to earnings	**(103)**	**25**	**(78)**	**—**	**(78)**
Net OCI	**$ 1,485**	**$ (348)**	**$ 1,137**	**$ —**	**$ 1,137**
Pension, postretirement and other					
OCI activity	**$ (98)**	**$ 25**	**$ (73)**	**$ —**	**$ (73)**
Reclassified to earnings	**12**	**(5)**	**7**	**—**	**7**
Net OCI	**$ (86)**	**$ 20**	**$ (66)**	**$ —**	**$ (66)**
Change in net DVA					
OCI activity	**$ (2,181)**	**$ 533**	**$ (1,648)**	**$ (80)**	**$ (1,568)**
Reclassified to earnings	**11**	**(2)**	**9**	**—**	**9**
Net OCI	**$ (2,170)**	**$ 531**	**$ (1,639)**	**$ (80)**	**$ (1,559)**

	2018[1]				
$ in millions	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

	2017				
$ in millions	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)

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.

Cumulative Adjustments to Retained Earnings Related to Adoption of Accounting Updates

$ in millions		2019
Leases	**$**	**63**

$ 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 previously adopted) and *Derecognition of Nonfinancial Assets*. The impact of these adoptions on Retained earnings was not significant.
2. In addition to the Retained earnings impact, this adoption also resulted in a $45 million increase to Additional paid-in capital.

Cumulative Foreign Currency Translation Adjustments

$ in millions		At December 31, 2019		At December 31, 2018
Associated with net investments in subsidiaries with a non-U.S. dollar functional currency	**$**	**(1,874)**	$	(1,851)
Hedges, net of tax		**977**		962
Total	**$**	**(897)**	$	(889)
Carrying value of net investments in non-U.S. dollar functional currency subsidiaries subject to hedges	**$**	**13,440**	$	11,608

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 previous table.

17. Interest Income and Interest Expense

$ in millions		2019		2018		2017
Interest income						
Investment securities	**$**	**2,175**	$	1,744	$	1,334
Loans		**4,783**		4,249		3,298
Securities purchased under agreements to resell and Securities borrowed[1]		**3,485**		1,976		169
Trading assets, net of Trading liabilities		**2,899**		2,392		2,029
Customer receivables and Other[2]		**3,756**		3,531		2,167
Total interest income	**$**	**17,098**	$	13,892	$	8,997
Interest expense						
Deposits	**$**	**1,885**	$	1,255	$	187
Borrowings		**5,052**		5,031		4,285
Securities sold under agreements to repurchase and Securities loaned[3]		**2,609**		1,898		1,237
Customer payables and Other[4]		**2,858**		1,902		(12)
Total interest expense	**$**	**12,404**	$	10,086	$	5,697
Net interest	**$**	**4,694**	$	3,806	$	3,300

1. Includes fees paid on Securities borrowed.
2. Includes interest from Cash and cash equivalents.
3. Includes fees received on Securities loaned.
4. Includes fees received from prime brokerage customers for stock loan transactions entered into 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 and Carried Interest Compensation

Stock-Based Compensation Plans

Certain employees of the Firm participate in the Firm's stock-based compensation plans. These plans include RSUs and PSUs, the details of which are further outlined below.

Stock-Based Compensation Expense

$ in millions		2019		2018		2017
RSUs	**$**	**1,064**	$	892	$	951
PSUs		**89**		28		75
Total[1]	**$**	**1,153**	$	920	$	1,026
Includes:						
Retirement-eligible awards[2]	**$**	**111**	$	110	$	85

1. Net of forfeitures.
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		2019		2018		2017
Tax benefit[1]	**$**	**243**	$	193	$	225

1. Excludes income tax consequences related to employee share-based award conversions.

Unrecognized Compensation Cost Related to Stock-Based Awards Granted

$ in millions		At December 31, 2019[1]
To be recognized in:		
2020	$	394
2021		168
Thereafter		30
Total	$	592

1. Amounts do not include forfeitures, cancellations, accelerations, future adjustments to fair value for certain awards, or 2019 performance year compensation awarded in January 2020, which will begin to be amortized in 2020.

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 non-objection.

Common Shares Available for Future Awards under Stock-Based Compensation Plans

in millions	At December 31, 2019
Shares	123

See Note 16 for additional information on the Firm's Share Repurchase Program.

Restricted Stock Units

RSUs are subject to vesting over time, generally one to seven 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 forfeited if employment is terminated before the end of the relevant vesting period or cancelled 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

	2019		
shares in millions	Number of Shares		Weighted Average Award Date Fair Value
RSUs at beginning of period	74	$	37.59
Awarded	27		43.05
Conversions to common stock	(35)		28.95
Forfeited	(1)		43.66
RSUs at end of period[1]	65	$	44.38
Aggregate intrinsic value of RSUs at end of period (dollars in millions)		$	3,294
Weighted average award date fair value			
RSUs awarded in 2018		$	55.40
RSUs awarded in 2017			42.98

1. At December 31, 2019, the weighted average remaining term until delivery for the outstanding RSUs was approximately 1.2 years.

Unvested RSU Activity

	2019		
shares in millions	Number of Shares		Weighted Average Award Date Fair Value
Unvested RSUs at beginning of period	41	$	40.65
Awarded	27		43.05
Vested	(30)		37.80
Forfeited	(1)		43.66
Unvested RSUs at end of period[1]	37	$	44.58

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		2019		2018		2017
Conversions to common stock	$	1,497	$	1,790	$	1,333
Vested		1,292		1,504		1,470

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 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, forfeiture and cancellation provisions that are generally similar to those of RSUs. At December 31, 2019, approximately 3 million PSUs were outstanding.

PSU Fair Value on Award Date

	2019	2018	2017
MS Adjusted ROE	**$ 43.29**	$ 56.84	$ 42.64
Relative MS TSR	**48.28**	65.81	48.02

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
2019	**2.6%**	**26.5%**	**0.89**
2018	2.2%	26.8%	0.89
2017	1.5%	27.0%	0.89

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 uses an expected dividend yield 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	2019	2018	2017
Deferred cash-based awards	**$ 1,233**	$ 1,174	$ 1,039
Return on referenced investments	**645**	(48)	499
Total[1]	**$ 1,878**	$ 1,126	$ 1,538
Includes:			
Retirement-eligible awards[2]	**$ 195**	$ 193	$ 176

1. Net of forfeitures.
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.

Carried Interest Compensation

The Firm generally recognizes compensation expense for any portion of carried interest (both realized and unrealized) that is allocated to employees.

Carried Interest Compensation Expense

$ in millions	2019	2018	2017
Expense	**$ 534**	$ 156	$ 197

19. Employee Benefit Plans

Pension and Other Postretirement Plans

Components of Net Periodic Benefit Expense (Income)

	Pension Plans		
$ in millions	**2019**	2018	2017
Service cost, benefits earned during the period	**$ 16**	$ 16	$ 16
Interest cost on projected benefit obligation	**139**	134	146
Expected return on plan assets	**(114)**	(112)	(117)
Net amortization of prior service cost (credit)	**1**	(1)	—
Net amortization of actuarial loss	**13**	26	17
Net periodic benefit expense	**$ 55**	$ 63	$ 62

	Other Postretirement Plans		
$ in millions	**2019**	2018	2017
Service cost, benefits earned during the period	**$ 1**	$ 1	$ 1
Interest cost on projected benefit obligation	**2**	3	3
Net amortization of prior service credit	**—**	(1)	(16)
Net periodic benefit expense (income)	**$ 3**	$ 3	$ (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 unfunded postretirement benefit plans that provide health care and life insurance for eligible U.S. retirees and health care insurance for their dependents.

Rollforward of Pre-tax AOCI

	Pension Plans		
$ in millions	2019	2018	2017
Beginning balance	$ (779)	$ (947)	$ (761)
Net gain (loss)	(112)	158	(205)
Prior service credit (cost)	—	(15)	2
Amortization of prior service cost (credit)	1	(1)	—
Amortization of net loss	13	26	17
Changes recognized in OCI	(98)	168	(186)
Ending balance	$ (877)	$ (779)	$ (947)

	Other Postretirement Plans		
$ in millions	2019	2018	2017
Beginning balance	$ 13	$ 1	$ 17
Net gain	13	13	—
Amortization of prior service credit	—	(1)	(16)
Changes recognized in OCI	13	12	(16)
Ending balance	$ 26	$ 13	$ 1

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		
	2019	2018	2017
Discount rate	4.01%	3.46%	4.01%
Expected long-term rate of return on plan assets	3.52%	3.50%	3.52%
Rate of future compensation increases	3.34%	3.38%	3.10%
	Other Postretirement Plans		
	2019	2018	2017
Discount rate	4.07%	3.44%	4.01%

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

	Pension Plans		Other Post-retirement Plans	
$ in millions	2019	2018	2019	2018
Rollforward of benefit obligation				
Benefit obligation at beginning of year	$ 3,563	$ 3,966	$ 71	$ 86
Service cost	16	16	1	1
Interest cost	139	134	2	3
Actuarial loss (gain)[1]	497	(340)	(13)	(13)
Plan amendments	—	15	—	—
Plan settlements	(9)	(11)	—	—
Benefits paid	(191)	(195)	(5)	(6)
Other[2]	11	(22)	—	—
Benefit obligation at end of year	$ 4,026	$ 3,563	$ 56	$ 71
Rollforward of fair value of plan assets				
Fair value of plan assets at beginning of year	$ 3,203	$ 3,468	$ —	$ —
Actual return on plan assets	499	(69)	—	—
Employer contributions	36	34	5	6
Benefits paid	(191)	(195)	(5)	(6)
Plan settlements	(9)	(11)	—	—
Other[2]	15	(24)	—	—
Fair value of plan assets at end of year	$ 3,553	$ 3,203	$ —	$ —
Funded (unfunded) status	$ (473)	$ (360)	$ (56)	$ (71)
Amounts recognized in the balance sheets				
Assets	$ 98	$ 151	$ —	$ —
Liabilities	(571)	(511)	(56)	(71)
Net amount recognized	$ (473)	$ (360)	$ (56)	$ (71)

1. Primarily reflects the impact of year-over-year discount rate fluctuations.
2. Includes foreign currency exchange rate changes.

Accumulated Benefit Obligation

$ in millions	At December 31, 2019	At December 31, 2018
Pension plans	$ 4,013	$ 3,546

Pension Plans with Benefit Obligations in Excess of the Fair Value of Plan Assets

$ in millions	At December 31, 2019	At December 31, 2018
Projected benefit obligation	$ 637	$ 575
Accumulated benefit obligation	624	559
Fair value of plan assets	66	64

The pension plans included in the table above may differ based on their funding status as of December 31st of each year.

Weighted Average Assumptions Used to Determine Benefit Obligation

	Pension Plans		Other Postretirement Plans	
	At December 31, 2019	At December 31, 2018	**At December 31, 2019**	At December 31, 2018
Discount rate	**3.08%**	4.01%	**3.11%**	4.07%
Rate of future compensation increase	**3.28%**	3.34%	**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 actuary, 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, 2019	At December 31, 2018
Health care cost trend rate assumed for next year		
Medical	**5.48%**	5.66%
Prescription	**8.00%**	7.66%
Rate to which the cost trend rate is assumed to decline (ultimate trend rate)	**4.41%**	4.50%
Year that the rate reaches the ultimate trend rate	**2029**	2038

Plan Assets

Fair Value of Plan Assets

	At December 31, 2019			
$ in millions	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	**2,658**	**—**	**—**	**2,658**
U.S. agency securities	**—**	**292**	**—**	**292**
Total U.S. government and agency securities	**2,658**	**292**	**—**	**2,950**
Corporate and other debt—CDO	**—**	**9**	**—**	**9**
Other investments	**—**	**—**	**53**	**53**
Other receivables[1]	**—**	**48**	**—**	**48**
Total	**$ 2,661**	**$ 349**	**$ 53**	**$ 3,063**
Assets Measured at NAV				
Commingled trust funds:				
Money market				**137**
Foreign funds:				
Fixed income				**136**
Liquidity				**30**
Targeted cash flow				**240**
Total				**$ 543**
Liabilities				
Derivative contracts	**—**	**(1)**	**—**	**(1)**
Other payables[1]	**—**	**(52)**	**—**	**(52)**
Total liabilities	**$ —**	**$ (53)**	**$ —**	**$ (53)**
Fair value of plan assets				**$ 3,553**

	At December 31, 2018			
$ in millions	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

1. Cash and cash equivalents, other receivables and other payables are valued at their carrying value, which approximates fair value.

Rollforward of Level 3 Plan Assets

$ in millions	2019	2018
Balance at beginning of period	$ 48	$ 47
Actual return on plan assets related to assets held at end of period	3	—
Purchases, sales, other settlements and issuances, net	2	1
Balance at end of period	**$ 53**	$ 48

There were no transfers between levels during 2019 and 2018.

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 and total return 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 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, 2019, the Firm expected to contribute approximately $50 million to its pension and postretirement benefit plans in 2020 based upon the plans' current funded status and expected asset return assumptions for 2020.

Expected Future Benefit Payments

	At December 31, 2019	
$ in millions	Pension Plans	Other Postretirement Plans
2020	149	4
2021	151	4
2022	153	5
2023	159	5
2024	163	5
2025-2029	911	18

Morgan Stanley 401(k) Plan

$ in millions	2019	2018	2017
Expense	$ 280	$ 272	$ 258

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 2019, 2018 and 2017, 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 employee benefit 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	2019	2018	2017
Expense	$ 121	$ 116	$ 106

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	2019	2018	2017
Current			
U.S.:			
Federal	$ 873	$ 686	$ 476
State and local	260	207	125
Non-U.S.:			
U.K.	166	328	401
Japan	177	268	56
Hong Kong	82	94	48
Other[1]	341	318	308
Total	$ 1,899	$ 1,901	$ 1,414
Deferred			
U.S.:			
Federal	$ 185	$ 330	$ 2,656
State and local	46	56	84
Non-U.S.:			
U.K.	5	54	18
Japan	11	(10)	(17)
Hong Kong	—	(3)	(2)
Other[1]	(82)	22	15
Total	$ 165	$ 449	$ 2,754
Provision for income taxes from continuing operations	$ 2,064	$ 2,350	$ 4,168
Provision for (benefit from) income taxes from discontinued operations	$ —	$ (1)	$ (7)

1. Other Non-U.S. tax provisions for 2019, 2018 and 2017 primarily include Brazil, India and Canada.

Effective Income Tax Rate

Reconciliation of the U.S. Federal Statutory Income Tax Rate to the Effective Income Tax Rate

	2019	2018	2017
U.S. federal statutory income tax rate	21.0 %	21.0 %	35.0 %
U.S. state and local income taxes, net of U.S. federal income tax benefits	2.2	2.0	1.4
Domestic tax credits	(1.5)	(0.9)	(1.6)
Tax exempt income	(0.1)	(0.4)	(0.1)
Non-U.S. earnings	(0.8)	1.3	(5.0)
Tax Act enactment	—	—	11.5
Employee share-based awards	(1.1)	(1.5)	(1.5)
Other	(1.4)	(0.6)	0.4
Effective income tax rate	18.3 %	20.9 %	40.1 %

The Firm's effective tax rates for 2019 and 2018 include intermittent net discrete tax benefits of $348 million and $203 million, respectively, primarily associated with remeasurement of reserves and related interest as a result of new information pertaining to 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 an approximate $1.2 billion provision 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 included 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 the U.S.

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Deferred Tax Assets and Liabilities

$ in millions	At December 31, 2019	At December 31, 2018
Gross deferred tax assets		
Net operating loss and tax credit carryforwards	$ 287	$ 264
Employee compensation and benefit plans	2,075	2,053
Valuation and liability allowances	318	318
Valuation of inventory, investments and receivables	368	242
Total deferred tax assets	3,048	2,877
Deferred tax assets valuation allowance	156	143
Deferred tax assets after valuation allowance	$ 2,892	$ 2,734
Gross deferred tax liabilities		
Fixed assets	983	825
Other	411	236
Total deferred tax liabilities	$ 1,394	$ 1,061
Net deferred tax assets	$ 1,498	$ 1,673

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, 2019 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, 2019 the unrecognized deferred tax liability attributable to indefinitely reinvested earnings is immaterial.

Unrecognized Tax Benefits

Rollforward of Unrecognized Tax Benefits

$ in millions	2019	2018	2017
Balance at beginning of period	$ 1,080	$ 1,594	$ 1,851
Increase based on tax positions related to the current period	57	83	63
Increase based on tax positions related to prior periods	61	34	170
Decrease based on tax positions related to prior periods	(419)	(404)	(312)
Decreases related to settlements with taxing authorities	(17)	(139)	(155)
Decreases related to lapse of statute of limitations	(7)	(88)	(23)
Balance at end of period	$ 755	$ 1,080	$ 1,594
Net unrecognized tax benefits[1]	$ 549	$ 746	$ 873

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	2019	2018	2017
Recognized in income statements	$ 8	$ (40)	$ (3)
Accrued at end of period	92	91	147

Interest and penalties related to unrecognized tax benefits are recognized as a component of the 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 resolutions occur.

See Note 13 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 may 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	2013
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

	2019				
$ in millions	IS	WM	IM	I/E	Total
Investment banking	$ 5,734	$ 509	$ —	$ (80)	$ 6,163
Trading	10,318	734	(8)	51	11,095
Investments	325	2	1,213	—	1,540
Commissions and fees[1]	2,484	1,726	1	(292)	3,919
Asset management[1]	413	10,199	2,629	(158)	13,083
Other	632	345	(46)	(6)	925
Total non-interest revenues	19,906	13,515	3,789	(485)	36,725
Interest income	12,193	5,467	20	(582)	17,098
Interest expense	11,713	1,245	46	(600)	12,404
Net interest	480	4,222	(26)	18	4,694
Net revenues	$ 20,386	$ 17,737	$ 3,763	$ (467)	$ 41,419
Income from continuing operations before income taxes	$ 5,490	$ 4,832	$ 985	$ (6)	$ 11,301
Provision for income taxes	769	1,104	193	(2)	2,064
Income from continuing operations	4,721	3,728	792	(4)	9,237
Income (loss) from discontinued operations, net of income taxes	—	—	—	—	—
Net income	4,721	3,728	792	(4)	9,237
Net income applicable to noncontrolling interests	122	—	73	—	195
Net income applicable to Morgan Stanley	$ 4,599	$ 3,728	$ 719	$ (4)	$ 9,042

	2018				
$ in millions	IS	WM	IM	I/E	Total
Investment banking	$ 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	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

I/E–Intersegment Eliminations

1. Substantially all of the of revenues for these line items are recognized under the *Revenues from Contracts with Customers* accounting update.

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Detail of Investment Banking Revenues

$ in millions	2019	2018	2017
Institutional Securities—Advisory	**$ 2,116**	$ 2,436	$ 2,077
Institutional Securities—Underwriting	**3,618**	3,652	3,460
Firm Investment banking revenues from contracts with customers[1]	**90 %**	86%	N/A

1. Represents the approximate amount of Investment banking revenues accounted for under this accounting update.

Trading Revenues by Product Type

$ in millions	2019	2018	2017
Interest rate	**$ 2,773**	$ 2,696	$ 2,091
Foreign exchange	**395**	914	647
Equity security and index[1]	**5,246**	6,157	6,291
Commodity and other	**1,438**	1,174	740
Credit	**1,243**	610	1,347
Total	**$ 11,095**	$ 11,551	$ 11,116

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.

Investment Management Investments Revenues—Net Cumulative Unrealized Carried Interest

$ in millions	At December 31, 2019	At December 31, 2018
Net cumulative unrealized performance-based fees at risk of reversing	**$ 774**	$ 434

The Firm's portion of net cumulative unrealized performance-based fees in the form of carried interest (for which the Firm is not obligated to pay compensation) are at risk of reversing when the return in certain funds falls below specified performance targets. See Note 13 for information regarding general partner guarantees, which include potential obligations to return performance fee distributions previously received.

Investment Management Asset Management Revenues—Reduction of Fees Due to Fee Waivers

$ in millions	2019	2018	2017
Fee waivers	**$ 43**	$ 56	$ 86

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.

Certain Other Fee Waivers

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.

Income from Continuing Operations before Income Tax Expense (Benefit)

$ in millions	2019	2018	2017
U.S.	**$ 9,464**	$ 7,804	$ 5,686
Non-U.S.[1]	**1,837**	3,433	4,717
Total	**$ 11,301**	$ 11,237	$ 10,403

1. Non-U.S. income is defined as income generated from operations located outside the U.S.

Net Discrete Tax Provisions (Benefits) by Segment

$ in millions	IS	WM	IM	Total
2019				
Intermittent net discrete tax provision (benefit)	**$ (317)**	**$ (13)**	**$ (18)**	**$ (348)**
Recurring:				
Employee share-based awards[1]	**(83)**	**(37)**	**(7)**	**(127)**
Total	**$ (400)**	**$ (50)**	**$ (25)**	**$ (475)**
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

1. 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.
2. For further discussion on the Tax Act, see Note 20.

Net Revenues by Region

$ in millions	2019	2018	2017
Americas	**$ 30,226**	$ 29,301	$ 27,817
EMEA	**6,061**	6,092	5,714
Asia	**5,132**	4,714	4,414
Total	**$ 41,419**	$ 40,107	$ 37,945

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.

Revenue Recognized from Prior Services

$ in millions	2019	2018
Non-interest revenues	$ 2,705	$ 2,821

The previous table includes revenue from contracts with customers recognized where some or all services were performed in prior periods and is primarily composed of investment banking advisory fees and distribution fees.

Receivables from Contracts with Customers

$ in millions	At December 31, 2019	At December 31, 2018
Customer and other receivables	$ 2,916	$ 2,308

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.

Assets by Business Segment

$ in millions	At December 31, 2019	At December 31, 2018
Institutional Securities	$ 691,201	$ 646,427
Wealth Management	197,682	202,392
Investment Management	6,546	4,712
Total[1]	$ 895,429	$ 853,531

1. Parent assets have been fully allocated to the business segments.

Total Assets by Region

$ in millions	At December 31, 2019	At December 31, 2018
Americas	$ 622,979	$ 576,532
EMEA	185,093	200,194
Asia	87,357	76,805
Total	$ 895,429	$ 853,531

22. Parent Company

Parent Company Only—Condensed Income Statements and Comprehensive Income Statements

$ in millions	2019	2018	2017
Revenues			
Dividends from subsidiaries[1]	$ 5,529	$ 4,973	$ 2,567
Trading	(54)	54	(260)
Other	80	(5)	64
Total non-interest revenues	5,555	5,022	2,371
Interest income	5,121	5,172	3,783
Interest expense	4,661	4,816	4,079
Net interest	460	356	(296)
Net revenues	6,015	5,378	2,075
Non-interest expenses	300	225	240
Income before income taxes	5,715	5,153	1,835
Provision for (benefit from) income taxes	(73)	22	(206)
Net income before undistributed gain of subsidiaries	5,788	5,131	2,041
Undistributed gain of subsidiaries	3,254	3,617	4,070
Net income	9,042	8,748	6,111
Other comprehensive income (loss), net of tax:			
Foreign currency translation adjustments	(8)	(114)	219
Change in net unrealized gains (losses) on available-for-sale securities	1,137	(272)	41
Pensions, postretirement and other	(66)	137	(117)
Change in net debt valuation adjustment	(1,559)	1,454	(560)
Comprehensive income	$ 8,546	$ 9,953	$ 5,694
Net income	$ 9,042	$ 8,748	$ 6,111
Preferred stock dividends and other	530	526	523
Earnings applicable to Morgan Stanley common shareholders	$ 8,512	$ 8,222	$ 5,588

1. In 2019 and 2018, the Parent Company recorded approximately $4 billion and $3 billion, respectively, of dividends from bank subsidiaries.

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Parent Company Only—Condensed Balance Sheets

$ in millions, except share data	At December 31, 2019	At December 31, 2018
Assets		
Cash and cash equivalents:		
Cash and due from banks	**$ 9**	$ 6
Deposits with bank subsidiaries	**8,001**	7,476
Trading assets at fair value	**5,747**	10,039
Investment securities (includes **$19,824** and $15,500 at fair value and **$4,606** and $ —— were pledged to various parties)	**37,253**	22,588
Securities purchased under agreement to resell with affiliates	**10,114**	25,535
Advances to subsidiaries:		
Bank and BHC	**27,667**	30,954
Non-bank	**104,345**	97,405
Equity investments in subsidiaries:		
Bank and BHC	**36,093**	42,848
Non-bank	**43,667**	32,418
Other assets	**244**	1,244
Total assets	**$ 273,140**	$ 270,513
Liabilities		
Trading liabilities at fair value	**$ 1,130**	$ 276
Securities sold under agreements to repurchase with affiliates	**4,631**	—
Payables to and advances from subsidiaries	**35,470**	30,861
Other liabilities and accrued expenses	**2,153**	2,548
Borrowings (includes **$20,461** and $18,599 at fair value)	**148,207**	156,582
Total liabilities	**191,591**	190,267
Commitments and contingent liabilities (see Note 13)		
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: **1,593,973,680** and 1,699,828,943	**20**	20
Additional paid-in capital	**23,935**	23,794
Retained earnings	**70,589**	64,175
Employee stock trusts	**2,918**	2,836
Accumulated other comprehensive income (loss)	**(2,788)**	(2,292)
Common stock held in treasury at cost, $0.01 par value (**444,920,299** and 339,065,036 shares)	**(18,727)**	(13,971)
Common stock issued to employee stock trusts	**(2,918)**	(2,836)
Total shareholders' equity	**81,549**	80,246
Total liabilities and equity	**$ 273,140**	$ 270,513

Parent Company Only—Condensed Cash Flow Statements

$ in millions	2019	2018	2017
Net cash provided by (used for) operating activities	**$ 24,175**	$ (1,136)	$ 3,747
Cash flows from investing activities			
Proceeds from (payments for):			
Investment securities:			
Purchases	**(22,408)**	(8,155)	(5,263)
Proceeds from sales	**4,671**	1,252	3,620
Proceeds from paydowns and maturities	**3,157**	3,729	1,038
Securities purchased under agreements to resell with affiliates	**15,422**	13,057	19,314
Securities sold under agreements to repurchase with affiliates	**4,631**	(8,753)	8,753
Advances to and investments in subsidiaries	**(9,210)**	11,841	(35,686)
Net cash provided by (used for) investing activities	**(3,737)**	12,971	(8,224)
Cash flows from financing activities			
Proceeds from:			
Issuance of preferred stock, net of issuance costs	**497**	—	994
Issuance of Borrowings	**8,337**	14,918	36,833
Payments for:			
Borrowings	**(24,282)**	(21,418)	(24,668)
Repurchases of common stock and employee tax withholdings	**(5,954)**	(5,566)	(4,292)
Cash dividends	**(2,627)**	(2,375)	(2,085)
Net change in advances from subsidiaries	**4,378**	2,122	1,861
Other financing activities	**12**	—	26
Net cash provided by (used for) financing activities	**(19,639)**	(12,319)	8,669
Effect of exchange rate changes on cash and cash equivalents	**(271)**	(166)	221
Net increase (decrease) in cash and cash equivalents	**528**	(650)	4,413
Cash and cash equivalents, at beginning of period	**7,482**	8,132	3,719
Cash and cash equivalents, at end of period	**$ 8,010**	$ 7,482	$ 8,132
Cash and cash equivalents:			
Cash and due from banks	**$ 9**	$ 6	$ 11
Deposits with bank subsidiaries	**8,001**	7,476	8,120
Restricted cash	**—**	—	1
Cash and cash equivalents, at end of period	**$ 8,010**	$ 7,482	$ 8,132
Supplemental Disclosure of Cash Flow Information			
Cash payments for:			
Interest	**$ 4,677**	$ 4,798	$ 3,570
Income taxes, net of refunds[1]	**1,186**	437	201

1.Represents total payments, net of refunds, made to various tax authorities and includes taxes paid on behalf of certain subsidiaries that are subsequently settled between the Parent Company and these subsidiaries. The settlements received from subsidiaries were $1.6 billion, $1.6 billion and $1.5 billion for 2019, 2018 and 2017, respectively.

On November 25, 2019, the Parent Company issued $500 million of Series L Preferred Stock and on January 15, 2020, the Parent Company redeemed in whole its outstanding Series G Preferred Stock. For further information on preferred stock, see Note 16.

Parent Company's Borrowings with Original Maturities Greater than One Year

$ in millions	At December 31, 2019	At December 31, 2018
Senior	$ 137,138	$ 146,492
Subordinated	10,570	10,090
Total	$ 147,708	$ 156,582

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, 2019	At December 31, 2018
Aggregate balance	$ 32,996	$ 24,286

Guarantees under Subsidiary Lease Obligations

$ in millions	At December 31, 2019	At December 31, 2018
Aggregate balance[1]	$ 925	$ 1,003

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 wholly owned finance subsidiary.

Resolution and Recovery Planning

As indicated in the Firm's 2019 resolution plan submitted to the Federal Reserve and the FDIC, the Parent Company has amended and restated its support agreement with its material entities (including its wholly owned, direct subsidiary Morgan Stanley Holdings LLC (the "Funding IHC") and certain other subsidiaries, as defined in the Firm's 2019 resolution plan. Under the secured amended and restated support agreement, in the event of a resolution scenario, the Parent Company would be obligated to contribute all of its material assets that can be contributed under the terms of the amended and restated support agreement (other than shares in subsidiaries of the Parent Company and certain other assets) ("Contributable Assets"), to the material entities and/or the Funding IHC. The Funding IHC would be obligated to provide capital and liquidity, as applicable, to the material entities.

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23. Quarterly Results (Unaudited)

$ in millions, except per share data	2019 Quarter First	Second	Third	Fourth[1, 2, 3]
Total non-interest revenues	**$ 9,272**	**$ 9,215**	**$ 8,814**	**$ 9,424**
Net interest	**1,014**	**1,029**	**1,218**	**1,433**
Net revenues	**10,286**	**10,244**	**10,032**	**10,857**
Total non-interest expenses	**7,331**	**7,341**	**7,322**	**8,124**
Income from continuing operations before income taxes	**2,955**	**2,903**	**2,710**	**2,733**
Provision for income taxes	**487**	**657**	**492**	**428**
Income from continuing operations	**2,468**	**2,246**	**2,218**	**2,305**
Net income	**2,468**	**2,246**	**2,218**	**2,305**
Net income applicable to noncontrolling interests	**39**	**45**	**45**	**66**
Net income applicable to Morgan Stanley	**$ 2,429**	**$ 2,201**	**$ 2,173**	**$ 2,239**
Preferred stock dividends and other	**93**	**170**	**113**	**154**
Earnings applicable to Morgan Stanley common shareholders	**$ 2,336**	**$ 2,031**	**$ 2,060**	**$ 2,085**
Earnings (loss) per basic common share[4]:				
Income from continuing operations	**$ 1.41**	**$ 1.24**	**$ 1.28**	**$ 1.33**
Earnings per basic common share	**$ 1.41**	**$ 1.24**	**$ 1.28**	**$ 1.33**
Earnings (loss) per diluted common share[4]:				
Income from continuing operations	**$ 1.39**	**$ 1.23**	**$ 1.27**	**$ 1.30**
Earnings per diluted common share	**$ 1.39**	**$ 1.23**	**$ 1.27**	**$ 1.30**
Dividends declared per common share	**$ 0.30**	**$ 0.30**	**$ 0.35**	**$ 0.35**
Book value per common share	**$ 42.83**	**$ 44.13**	**$ 45.49**	**$ 45.82**

$ in millions, except per share data	2018 Quarter First	Second	Third	Fourth[1, 2]
Total non-interest revenues	$ 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	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	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

1. The fourth quarters of 2019 and 2018 included intermittent net discrete tax benefits of $158 million and $111 million, respectively, primarily associated with remeasurement of reserves and related interest as a result of new information pertaining to the resolution of multi-jurisdiction tax examinations.
2. Total non-interest revenues includes impairments of the Investment Management business segment's interests in two distinct equity method investments in third-party asset managers of $41 million in 2019 and $46 million in 2018.
3. The fourth quarter of 2019 included specific severance-related costs of approximately $172 million, which are included in Compensation and benefits expenses in the Income statement. These costs were recorded in the business segments approximately as follows: Institutional Securities $124 million, Wealth Management $37 million and Investment Management $11 million.
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.

24. Subsequent Event

On February 20, 2020, the Firm entered into a definitive agreement under which it will acquire E*TRADE Financial Corporation ("E*TRADE") in an all-stock transaction currently valued at approximately $13 billion, based on the closing price of the Firm's common stock and the number of E*TRADE's fully diluted shares outstanding on February 19, 2020. Under the terms of the agreement, E*TRADE common stockholders will receive 1.0432 Morgan Stanley common shares for each E*TRADE common share. The acquisition is subject to customary closing conditions, including regulatory approvals and approval by E*TRADE shareholders, and is expected to close in the fourth quarter of 2020.

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Financial Data Supplement (Unaudited)

Morgan Stanley

Average Balances and Interest Rates and Net Interest Income

$ in millions	2019 Average Daily Balance	2019 Interest	2019 Average Rate	2018 Average Daily Balance	2018 Interest	2018 Average Rate
Interest earning assets						
Investment securities[1]	**$ 101,696**	**$ 2,175**	**2.1%**	$ 81,977	$ 1,744	2.1 %
Loans[1]	**121,002**	**4,783**	**4.0**	109,681	4,249	3.9
Securities purchased under agreements to resell and Securities borrowed[2]:						
U.S.	**142,089**	**3,378**	**2.4**	134,223	2,262	1.7
Non-U.S.	**76,577**	**107**	**0.1**	86,430	(286)	(0.3)
Trading assets, net of Trading liabilities[3]:						
U.S.	**77,481**	**2,531**	**3.3**	57,780	2,144	3.7
Non-U.S.	**14,654**	**368**	**2.5**	9,014	248	2.8
Customer receivables and Other[4]:						
U.S.	**61,501**	**2,697**	**4.4**	73,695	2,592	3.5
Non-U.S.	**58,601**	**1,059**	**1.8**	54,396	939	1.7
Total	**$ 653,601**	**$ 17,098**	**2.6%**	$ 607,196	$ 13,892	2.3 %
Interest bearing liabilities						
Deposits[1]	**$ 180,116**	**$ 1,885**	**1.0%**	$ 169,226	$ 1,255	0.7 %
Borrowings[1, 5]	**192,770**	**5,052**	**2.6**	191,692	5,031	2.6
Securities sold under agreements to repurchase and Securities loaned[6]:						
U.S.	**32,437**	**1,916**	**5.9**	24,426	1,408	5.8
Non-U.S.	**31,808**	**693**	**2.2**	37,319	490	1.3
Customer payables and Other[7]:						
U.S.	**118,775**	**1,792**	**1.5**	120,228	1,061	0.9
Non-U.S.	**65,196**	**1,066**	**1.6**	70,855	841	1.2
Total	**$ 621,102**	**$ 12,404**	**2.0%**	$ 613,746	$ 10,086	1.6 %
Net interest income and net interest rate spread		**$ 4,694**	**0.6%**		$ 3,806	0.7 %

Effect of Volume and Rate Changes on Net Interest Income

$ in millions	2019 versus 2018 Increase (Decrease) Due to Change in: Volume	Rate	Net Change
Interest earning assets			
Investment securities[1]	**$ 420**	**$ 11**	**$ 431**
Loans[1]	**439**	**95**	**534**
Securities purchased under agreements to resell and Securities borrowed[2]:			
U.S.	**133**	**983**	**1,116**
Non-U.S.	**33**	**360**	**393**
Trading assets, net of Trading liabilities[3]:			
U.S.	**731**	**(344)**	**387**
Non-U.S.	**155**	**(35)**	**120**
Customer receivables and Other[4]:			
U.S.	**(429)**	**534**	**105**
Non-U.S.	**73**	**47**	**120**
Change in interest income	**$ 1,555**	**$ 1,651**	**$ 3,206**
Interest bearing liabilities			
Deposits[1]	**$ 81**	**$ 549**	**$ 630**
Borrowings[1, 5]	**28**	**(7)**	**21**
Securities sold under agreements to repurchase and Securities loaned[6]:			
U.S.	**462**	**46**	**508**
Non-U.S.	**(72)**	**275**	**203**
Customer payables and Other[7]:			
U.S.	**(13)**	**744**	**731**
Non-U.S.	**(67)**	**292**	**225**
Change in interest expense	**$ 419**	**$ 1,899**	**$ 2,318**
Change in net interest income	**$ 1,136**	**$ (248)**	**$ 888**

Financial Data Supplement (Unaudited)

Morgan Stanley

Average Balances and Interest Rates and Net Interest Income

	2017		
$ in millions	Average Daily Balance	Interest	Average Rate
Interest earning assets			
Investment securities[1]	$ 76,746	$ 1,334	1.7 %
Loans[1]	98,727	3,298	3.3
Securities purchased under agreements to resell and Securities borrowed[2]:			
U.S.	125,453	606	0.5
Non-U.S.	95,478	(437)	(0.5)
Trading assets, net of Trading liabilities[3]:			
U.S.	59,335	1,876	3.2
Non-U.S.	4,326	153	3.5
Customer receivables and Other[4]:			
U.S.	72,440	1,614	2.2
Non-U.S.	40,179	553	1.4
Total	$ 572,684	$ 8,997	1.6 %
Interest bearing liabilities			
Deposits[1]	$ 151,442	$ 187	0.1 %
Borrowings[1, 5]	184,453	4,285	2.3
Securities sold under agreements to repurchase and Securities loaned[6]:			
U.S.	30,866	900	2.9
Non-U.S.	39,396	337	0.9
Customer payables and Other[7]:			
U.S.	128,274	(213)	(0.2)
Non-U.S.	65,496	201	0.3
Total	$ 599,927	$ 5,697	0.9 %
Net interest income and net interest rate spread		$ 3,300	0.7 %

Effect of Volume and Rate Changes on Net Interest Income

	2018 versus 2017		
	Increase (Decrease) Due to Change in:		
$ in millions	Volume	Rate	Net Change
Interest earning assets			
Investment securities[1]	$ 91	$ 319	$ 410
Loans[1]	366	585	951
Securities purchased under agreements to resell and Securities borrowed[2]:			
U.S.	42	1,614	1,656
Non-U.S.	41	110	151
Trading assets, net of Trading liabilities[3]:			
U.S.	(49)	317	268
Non-U.S.	166	(71)	95
Customer receivables and Other[4]:			
U.S.	28	950	978
Non-U.S.	196	190	386
Change in interest income	$ 881	$ 4,014	$ 4,895
Interest bearing liabilities			
Deposits[1]	$ 22	$ 1,046	$ 1,068
Borrowings[1,5]	168	578	746
Securities sold under agreements to repurchase and Securities loaned[6]:			
U.S.	(188)	696	508
Non-U.S.	(18)	171	153
Customer payables and Other[7]:			
U.S.	13	1,261	1,274
Non-U.S.	16	624	640
Change in interest expense	$ 13	$ 4,376	$ 4,389
Change in net interest income	$ 868	$ (362)	$ 506

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 Cash and cash equivalents.
5. Includes structured notes, whose interest expense is considered part of its value and therefore is recorded within Trading revenues.
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 entered into to cover customers' short positions.

Deposits

	Average Daily Deposits					
	2019		2018		2017	
$ in millions	Average Amount	Average Rate	Average Amount	Average Rate	Average Amount	Average Rate
Deposits[1]**:**						
Savings	**$ 144,017**	**0.6%**	$ 142,753	0.4%	$ 144,870	0.1%
Time	**36,099**	**2.8%**	26,473	2.4%	6,572	1.6%
Total	**$ 180,116**	**1.0%**	$ 169,226	0.7%	$ 151,442	0.1%

1. The Firm's deposits were primarily held in U.S. offices.

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Financial Data Supplement (Unaudited)

Morgan Stanley

Ratios

	2019	2018	2017
Net income to average total assets	**1.0%**	1.0%	0.7%
ROE[1]	**11.7%**	11.8%	8.0%
Return on total equity[2]	**11.1%**	11.1%	7.8%
Dividend payout ratio[3]	**25.0%**	23.3%	29.3%
Total average common equity to average total assets	**8.2%**	8.1%	8.2%
Total average equity to average total assets	**9.2%**	9.1%	9.2%

1. ROE represents Earnings applicable to Morgan Stanley common shareholders as a percentage of average common equity.
2. Return on total equity represents Net income applicable to Morgan Stanley as a percentage of average total equity.
3. Dividend payout ratio represents 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	2019	2018	2017
Period-end balance	**$ 62,706**	$ 61,667	$ 70,016
Average balance[1]	**64,245**	61,745	70,262
Maximum balance at any month-end	**78,327**	72,161	77,063
Weighted average interest rate during the period[2]	**4.1%**	3.1%	1.8%
Weighted average interest rate on period-end balance[2]	**4.0%**	4.1%	1.5%

1. The Firm calculated its average balances based upon daily amounts.
2. 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.

Cross-Border Outstandings

	At December 31, 2019				
$ in millions	**Banks**	**Governments**	**Non-banking Financial Institutions**	**Other**	**Total**
Japan	**18,282**	**7,146**	**20,376**	**11,565**	**$ 57,369**
U.K.	**6,021**	**11,515**	**15,623**	**10,431**	**43,590**
Cayman Islands	**12**	**—**	**24,693**	**5,987**	**30,692**
France	**4,454**	**1,927**	**9,447**	**6,363**	**22,191**
Canada	**6,794**	**1,205**	**2,606**	**4,163**	**14,768**
Ireland	**274**	**126**	**9,161**	**4,410**	**13,971**
European Central Bank	**—**	**11,464**	**—**	**—**	**11,464**
China	**1,451**	**168**	**1,320**	**7,907**	**10,846**
Brazil	**2,765**	**2,116**	**1,287**	**4,509**	**10,677**
Luxembourg	**82**	**27**	**7,596**	**1,947**	**9,652**
Australia	**2,265**	**2,366**	**2,481**	**2,486**	**9,598**
Netherlands	**2,149**	**107**	**2,163**	**4,788**	**9,207**
Germany	**1,210**	**838**	**2,444**	**4,471**	**8,963**

	December 31, 2018				
$ in millions	Banks	Governments	Non-banking Financial Institutions	Other	Total
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

	December 31, 2017				
$ in millions	Banks	Governments	Non-banking Financial Institutions	Other	Total
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
Republic of Korea	447	2,871	1,020	4,922	9,260
Netherlands	313	982	2,446	4,377	8,118

Cross-border outstandings are based upon the FFIEC regulatory guidelines for reporting cross-border information and represent 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. 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 on the Firm's country risk exposure, see "Quantitative and Qualitative Disclosures about Risk—Country and Other Risks."

There can be substantial differences between our cross-border risk exposure and our country risk exposure. For instance, unlike the country risk exposure, our cross-border risk exposure does not include the effect of certain risk mitigants. In addition, the basis for determining the domicile of the cross-border risk exposure is different from the basis for determining the country 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.

The cross-border outstandings 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[1]
At December 31, 2019	
Switzerland, Republic of Korea and Taiwan	**$ 21,947**
At December 31, 2018	
Netherlands	$ 7,338
At December 31, 2017	
Australia, European Central Bank, Luxembourg and India	$ 29,257

1. Cross-border exposure, including derivative contracts, that exceeds 0.75% but does not exceed 1% of the Firm's consolidated assets.

2018 Form 10-K	Annual report on Form 10-K for year ended December 31, 2018 filed with the SEC
2019 Form 10-K	Annual report on Form 10-K for year ended December 31, 2019 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
Balance sheets	Consolidated balance sheets
BEAT	Base erosion and anti-abuse tax
BHC	Bank holding company
bps	Basis points; one basis point equals 1/100th of 1%
Cash flow statements	Consolidated cash flow statements
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
FICC	Fixed Income Clearing Corporation
FICO	Fair Isaac Corporation
Financial statements	Consolidated financial statements
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
Income statements	Consolidated income statements
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.

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Glossary of Common Terms and Acronyms

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	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
OTTI	Other-than-temporary impairment
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
ROU	Right-of-use
RSU	Restricted stock unit
RWA	Risk-weighted assets
SEC	U.S. Securities and Exchange Commission
SLR	Supplementary leverage ratio
SOFR	Secured Overnight Financing Rate
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. GAAP	Accounting principles generally accepted in the United States of America
VaR	Value-at-Risk
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, 2019. 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, 2019.

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.

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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, 2019, 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, 2019, 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, 2019 and our report dated February 27, 2020 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 27, 2020

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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, 2019 that materially affected, or is reasonably likely to materially affect, the Firm's internal control over financial reporting.

Other Information

On February 26, 2020, the Firm announced that Paul C. Wirth would step down from his position as Deputy Chief Financial Officer and Controller of the Firm in May 2020. After that date, Mr. Wirth will become a Senior Advisor in the Finance Division reporting to the Chief Financial Officer.

On February 27, 2020, the Firm announced that Raja J. Akram, age 47, will become Deputy Chief Financial Officer, Chief Accounting Officer and Controller of the Firm in May 2020.

Beginning in November 2017, Mr. Akram was Controller and Chief Accounting Officer of Citigroup Inc. Since 2006, Mr. Akram held a number of roles in Citigroup Inc., including Deputy Controller, head of the Finance group's Corporate Accounting Policy team supporting M&A activities, and Brazil Country Finance Officer.

For 2020, Mr. Akram will receive a base salary of $600,000 and a year-end bonus of $4,400,000 that is payable in a combination of cash and deferred incentive compensation. Upon commencement of employment, Mr. Akram will receive incoming awards in the form of a one-time cash payment, a one-time deferred cash award, and a one-time restricted stock unit award with an aggregate value of $5,000,000. Deferred incentive compensation awards, including deferred cash and restricted stock units, are subject to the terms and conditions of the governing award documentation, including vesting and cancellation conditions. In the event that Mr. Akram's employment offer is withdrawn by the Firm, with limited exceptions, or his employment is terminated by the Firm without cause, he is entitled to severance in an amount equal to his 2020 base salary and the value of any portion of the 2020 year-end bonus and incoming awards that have not yet been paid or awarded.

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

We have offices, operations and data centers located around the world. Our global headquarters and principal executive offices are located at 1585 Broadway, New York, New York. Our other principal offices include locations in Manhattan and the greater New York metropolitan area, London, Hong Kong and Tokyo. Our current facilities are adequate for our present and future operations for each of our business segments, although we may add regional offices, depending upon our future operations.

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 range of 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 March 7, 2019, the court denied the relief that CDIB sought in a motion to clarify and resettle the portion of the court's December 21, 2018 order granting spoliation sanctions. On December 5, 2019, the Appellate Division, First Department ("First Department") heard the parties' cross-appeals.

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 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 styled *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 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 April 4, 2019, the court denied the Firm's 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 styled *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 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 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 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 Court of Appeals in another case styled *Deutsche Bank National Trust Company v. Barclays Bank PLC regarding the applicable statute of limitations*. 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 June 4, 2019, the First Department granted the Firm's motion for leave to appeal its January 17, 2019 decision to the Court of Appeals.

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 $85 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. On March 11, 2019, the plaintiff filed an appeal in the Court of Appeal of Milan. On May 31, 2019, the Firm filed its response to the plaintiff's appeal. An appeal hearing is scheduled to take place on September 16, 2020 in the Court of Appeal of Milan.

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 $3.1 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. On March 7, 2019, the Appellate Division of the Court of Accounts for the Republic of Italy issued a decision affirming the decision below declining jurisdiction and dismissing the claim against the Firm. On April 19, 2019, the public prosecutor filed an appeal with the Italian Supreme Court seeking to overturn this decision. On June 14, 2019, the Firm filed its response to the public prosecutor's appeal.

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 $139 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. On June 26 and July 2, 2019, a hearing of the Dutch Tax Authority's appeal was held.

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 $80 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 $115 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, 2019:

On December 30, 2013, Wilmington Trust Company, in its capacity as trustee for Morgan Stanley Mortgage Loan Trust 2007-12, filed a complaint against the Firm styled *Wilmington Trust Company v. Morgan Stanley Mortgage Capital Holdings LLC et al.*, pending in the Supreme Court of NY. The complaint asserted claims for breach of contract and alleged, among other things, that the loans in the trust, which had an original principal balance of approximately $516 million, breached various representations and warranties. The complaint sought, among other relief, unspecified damages, attorneys' fees, interest and costs. On February 28, 2014, defendants filed a motion to dismiss the complaint, which was granted in part and denied in part on June 14, 2016. Plaintiff filed a notice of appeal of that order on August 17, 2016. On July 11, 2017, First Department affirmed in part and reversed in part an order granting in part and denying in part the Firm's motion to dismiss. On August 10, 2017, plaintiff filed a motion for leave to appeal that decision. On September 26, 2017, the First Department denied plaintiff's motion for leave to appeal to the Court of Appeals. On October 31, 2018, the parties entered into an agreement to settle the litigation. On September 10, 2019, the court entered a final judgment and order granting final approval of the settlement. On November 11, 2019, the parties filed a stipulation of voluntary discontinuance, dismissing the action with prejudice.

On September 19, 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 a securitization issued by Basket of Aggregated Residential NIMS 2007-1 Ltd. The complaint asserted 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 sought, 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 November 13, 2019, the parties entered into an agreement to settle the litigation. On December 4, 2019, the parties filed a stipulation of voluntary discontinuance, dismissing the action with prejudice.

Beginning on March 25, 2019, the Firm was named as a defendant in a series of putative class action complaints filed in the Southern District of NY, the first of which is styled *Alaska Electrical Pension Fund v. BofA Secs., Inc., et al*. Each complaint alleges a conspiracy to fix prices and restrain competition in the market for unsecured bonds issued by the following Government-Sponsored Enterprises: the Federal National Mortgage Associate; the Federal Home Loan Mortgage Corporation; the Federal Farm Credit Banks Funding Corporation; and the Federal Home Loan Banks. The purported class period for each suit is from January 1, 2012 to June 1, 2018. Each complaint raises a claim under Section 1 of the Sherman Act and seeks, among other things, injunctive relief and treble compensatory damages. On May 23, 2019, plaintiffs filed a consolidated amended class action complaint styled *In re GSE Bonds Antitrust Litigation*, with a purported class period from January 1, 2009 to January 1, 2016. On June 13, 2019, the defendants filed a joint motion to dismiss the consolidated amended complaint. On August 29, 2019, the court denied the Firm's motion to dismiss. On December 15, 2019, the Firm and certain other defendants entered into a stipulation of settlement to resolve the action as against each of them in its entirety. On February 3, 2020, the court granted preliminary approval of that settlement.

Mine Safety Disclosures

Not applicable.

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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 14, 2020, the Firm had 54,039 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, 2019.

Issuer Purchases of Equity Securities
Three Months Ended December 31, 2019

$ in millions, except per share data	Total Number of Shares Purchased[1]	Average Price Paid Per Share	Total Shares Purchased as Part of Share Repurchase Program[2,3]	Dollar Value of Remaining Authorized Repurchase
October	5,888,009	$ 45.59	5,851,110	$ 4,233
November	11,221,315	$ 48.53	11,212,000	$ 3,689
December	13,998,018	$ 49.67	13,872,271	$ 3,000
Total	**31,107,342**	**$ 48.48**	**30,935,381**	

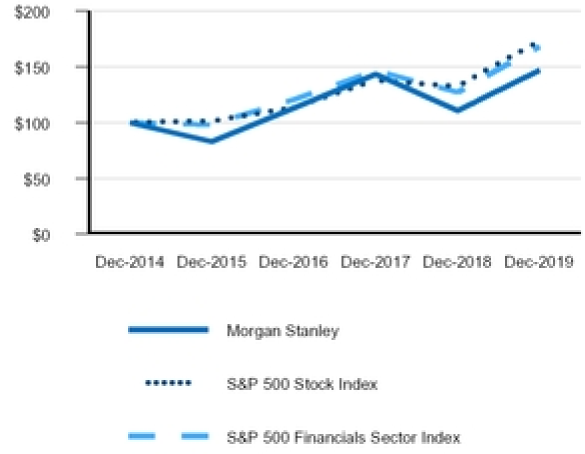
1. Includes 171,961 shares acquired by the Firm in satisfaction of the tax withholding obligations on stock-based awards granted under the Firm's stock-based compensation plans during the three months ended December 31, 2019.
2. Share purchases under publicly announced programs are made pursuant to open-market 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"). See Note 16 to the financial statements for further information on the sales plan.
3. 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 non-objection. On June 27, 2019, the Federal Reserve published summary results of CCAR and the Firm received a non-objection to its 2019 Capital Plan. The Firm's 2019 Capital Plan includes a share repurchase of up to $6.0 billion of its outstanding common stock during the period beginning July 1, 2019 through June 30, 2020. For further information, see "Liquidity and Capital Resources—Capital Plans and Stress Tests."

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, 2014 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.

Cumulative Total Return
December 31, 2014 – December 31, 2019



	At December 31,					
	2014	2015	2016	2017	2018	**2019**
Morgan Stanley	$ 100.00	$ 83.25	$ 113.27	$ 143.42	$ 110.77	**$ 146.94**
S&P 500 Stock Index	100.00	101.37	113.49	138.26	132.19	**173.44**
S&P 500 Financials Sector Index	100.00	98.44	120.83	146.37	127.28	**168.13**

Directors, Executive Officers and Corporate Governance

Information relating to the Firm's directors and nominees in the Firm's definitive proxy statement for its 2020 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 "Information about our Executive Officers."

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 webpage, *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 webpage.

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, 2019		
	(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	**70,446,083**	**$ —**	**122,853,162** [2]
Equity compensation plans not approved by security holders	**—**	**—**	**—**
Total	**70,446,083**	**$ —**	**122,853,162**

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) 67,453,320 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) 991,805 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 "Ownership of Our 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."

Exhibit Index[1]

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.

Exhibit No.	Description
3.1*	Amended and Restated Certificate of Incorporation of Morgan Stanley, as amended to date.
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*	Description of Securities Registered Pursuant to Section 12 of the Securities Exchange Act of 1934.
4.2	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).

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Exhibit No.	Description
4.3	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).
4.4	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).
4.5	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)).
4.6	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).

Exhibit No.	Description
4.7	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).
4.8	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).
4.9	Depositary Receipt for Depositary Shares, representing Floating Rate Non-Cumulative Preferred Stock, Series A (included in Exhibit 4.8 hereto).
4.10	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).
4.11	Depositary Receipt for Depositary Shares, representing Fixed-to-Floating Rate Non-Cumulative Preferred Stock, Series E (included in Exhibit 4.10 hereto).
4.12	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).
4.13	Depositary Receipt for Depositary Shares, representing Fixed-to-Floating Rate Non-Cumulative Preferred Stock, Series F (included in Exhibit 4.12 hereto).
4.14	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).
4.15	Depositary Receipt for Depositary Shares, representing Fixed-to-Floating Rate Non-Cumulative Preferred Stock, Series H (included in Exhibit 4.14 hereto).
4.16	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).
4.17	Depositary Receipt for Depositary Shares, representing Fixed-to-Floating Rate Non-Cumulative Preferred Stock, Series I (included

in Exhibit 4.16 hereto).

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Exhibit No.	Description
4.18	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).
4.19	Depositary Receipt for Depositary Shares, representing Fixed-to-Floating Rate Non-Cumulative Preferred Stock, Series J (included in Exhibit 4.18 hereto).
4.20	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).
4.21	Depositary Receipt for Depositary Shares, representing Fixed-to-Floating Rate Non-Cumulative Preferred Stock, Series K (included in Exhibit 4.20 hereto).
4.22	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 L Preferred Stock described therein (Exhibit 2.4 to Morgan Stanley's Registration Statement on Form 8-A dated November 22, 2019).
4.23	Depositary Receipt for Depositary Shares, representing 4.875% Non-Cumulative Preferred Stock, Series L (included in Exhibit 4.22 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).
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), Amendment (Exhibit 10.5 to Morgan Stanley's annual report on Form 10-K for the year ended December 31, 2017) and Amendment (Exhibit 10.4 to Morgan Stanley's annual report on Form 10-K for the year ended December 31, 2018).
10.4†*	Amendment to Morgan Stanley 401(k) Plan, dated as of December 12, 2019.
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 (Exhibit 10.6 to Morgan Stanley's annual report on Form 10-K for the fiscal year ended December 31, 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).

Exhibit No.	Description
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)).
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).

Exhibit No.	Description
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 (Exhibit 10.24 to Morgan Stanley's annual report on Form 10-K for the fiscal year ended December 31, 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 (Exhibit 10.30 to Morgan Stanley's annual report on Form 10-K for the fiscal year ended December 31, 2018).
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).
21*	Subsidiaries of Morgan Stanley.
23.1*	Consent of Deloitte & Touche LLP.
24	Powers of Attorney (included on signature

			page).
December 2019 Form 10-K	168	31.1*	Rule 13a-14(a) Certification of Chief Executive Officer.

Exhibit No.	Description
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 formatted in Inline eXtensible Business Reporting Language (“Inline XBRL”).
104	Cover Page Interactive Data File (formatted in Inline XBRL and contained in Exhibit 101).

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.

* 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.

Form 10-K Summary

None.

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 27, 2020.

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 27th day of February, 2020.

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

Signature	Title
/s/ THOMAS H. GLOCER **(Thomas H. Glocer)**	Director
/s/ ROBERT H. HERZ **(Robert H. Herz)**	Director
/s/ NOBUYUKI HIRANO **(Nobuyuki Hirano)**	Director
/s/ STEPHEN J. LUCZO **(Stephen J. Luczo)**	Director
/s/ JAMI MISCIK **(Jami Miscik)**	Director
/s/ DENNIS M. NALLY **(Dennis M. Nally)**	Director
/s/ TAKESHI OGASAWARA **(Takeshi Ogasawara)**	Director
/s/ HUTHAM S. OLAYAN **(Hutham S. Olayan)**	Director
/s/ MARY L. SCHAPIRO **(Mary L. Schapiro)**	Director
/s/ PERRY M. TRAQUINA **(Perry M. Traquina)**	Director
/s/ RAYFORD WILKINS, JR. **(Rayford Wilkins, Jr.)**	Director