JPMORGAN CHASE & CO
Form 10-K
February 23, 2016

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 fiscal year ended December 31, 2015	Commission file number 1-5805
JPMorgan Chase & Co. (Exact name of registrant as specified in its charter)	
Delaware (State or other jurisdiction of incorporation or organization)	13-2624428 (I.R.S. employer identification no.)
270 Park Avenue, New York, New York (Address of principal executive offices)	10017 (Zip code)

Registrant's telephone number, including area code: (212) 270-6000
Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Name of each exchange on which registered
Common stock	The New York Stock Exchange The London Stock Exchange
Warrants, each to purchase one share of Common Stock	The New York Stock Exchange
Depositary Shares, each representing a one-four hundredth interest in a share of 5.50% Non-Cumulative Preferred Stock, Series O	The New York Stock Exchange
Depositary Shares, each representing a one-four hundredth interest in a share of 5.45% Non-Cumulative Preferred Stock, Series P	The New York Stock Exchange
Depositary Shares, each representing a one-four hundredth interest in a share of 6.70% Non-Cumulative Preferred Stock, Series T	The New York Stock Exchange
Depositary Shares, each representing a one-four hundredth interest in a share of 6.30% Non-Cumulative Preferred Stock, Series W	The New York Stock Exchange
Depositary Shares, each representing a one-four hundredth interest in a share of 6.125% Non-Cumulative Preferred Stock, Series Y	The New York Stock Exchange
Depositary Shares, each representing a one-four hundredth interest in a share of 6.10% Non-Cumulative Preferred Stock, Series AA	The New York Stock Exchange
Depositary Shares, each representing a one-four hundredth interest in a share of 6.15% Non-Cumulative Preferred Stock, Series BB	The New York Stock Exchange
Alerian MLP Index ETNs due May 24, 2024	NYSE Arca, Inc.

Securities registered pursuant to Section 12(g) of the Act: None
Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.
o Yes x No

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

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

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

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

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

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

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

The aggregate market value of JPMorgan Chase & Co. common stock held by non-affiliates as of June 30, 2015: $249,201,931,877

Number of shares of common stock outstanding as of January 31, 2016: 3,670,264,897

Documents incorporated by reference: Portions of the registrant's Proxy Statement for the annual meeting of stockholders to be held on May 17, 2016, are incorporated by reference in this Form 10-K in response to Items 10, 11, 12, 13 and 14 of Part III.

Form 10-K Index

Part I

ITEM 1: BUSINESS

Overview

JPMorgan Chase & Co., ("JPMorgan Chase" or the "Firm") a financial holding company incorporated under Delaware law in 1968, is a leading global financial services firm and one of the largest banking institutions in the United States of America ("U.S."), with operations worldwide; the Firm had $2.4 trillion in assets and $247.6 billion in stockholders' equity as of December 31, 2015. The Firm is a leader in investment banking, financial services for consumers and small businesses, commercial banking, financial transaction processing and asset management. Under the J.P. Morgan and Chase brands, the Firm serves millions of customers in the U.S. and many of the world's most prominent corporate, institutional and government clients.

JPMorgan Chase's principal bank subsidiaries are JPMorgan Chase Bank, National Association ("JPMorgan Chase Bank, N.A."), a national banking association with U.S. branches in 23 states, and Chase Bank USA, National Association ("Chase Bank USA, N.A."), a national banking association that is the Firm's credit card-issuing bank. JPMorgan Chase's principal nonbank subsidiary is J.P. Morgan Securities LLC ("JPMorgan Securities"), the Firm's U.S. investment banking firm. The bank and nonbank subsidiaries of JPMorgan Chase operate nationally as well as through overseas branches and subsidiaries, representative offices and subsidiary foreign banks. One of the Firm's principal operating subsidiaries in the United Kingdom ("U.K.") is J.P. Morgan Securities plc, a subsidiary of JPMorgan Chase Bank, N.A.

The Firm's website is www.jpmorganchase.com. JPMorgan Chase makes available free of charge, through its website, annual reports on Form 10-K, quarterly reports on Form 10-Q and current reports on Form 8-K pursuant to Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934, as soon as reasonably practicable after it electronically files such material with, or furnishes such material to, the U.S. Securities and Exchange Commission (the "SEC"). The Firm has adopted, and posted on its website, a Code of Conduct for all employees of the Firm and a Code of Ethics for its Chairman and Chief Executive Officer, Chief Financial Officer, Chief Accounting Officer and all other professionals of the Firm worldwide serving in a finance, accounting, tax or investor relations role.

Business segments

JPMorgan Chase's activities are organized, for management reporting purposes, into four major reportable business segments, as well as a Corporate segment. The Firm's consumer business is the Consumer & Community Banking ("CCB") segment. The Firm's wholesale business segments are Corporate & Investment Bank ("CIB"), Commercial Banking ("CB"), and Asset Management ("AM").

A description of the Firm's business segments and the products and services they provide to their respective client bases is provided in the "Business segment results" section of Management's discussion and analysis of financial condition and results of operations ("MD&A"), beginning on page 68 and in Note 33.

Competition

JPMorgan Chase and its subsidiaries and affiliates operate in a highly competitive environment. Competitors include other banks, brokerage firms, investment banking companies, merchant banks, hedge funds, commodity trading companies, private equity firms, insurance companies, mutual fund companies, investment managers, credit card companies, mortgage banking companies, trust companies, securities processing companies, automobile financing companies, leasing companies, e-commerce and other Internet-based companies, financial technology companies, and other companies engaged in providing similar products and services. The Firm's businesses generally compete on the basis of the quality and variety of the Firm's products and services, transaction execution, innovation, reputation and price. Competition also varies based on the types of clients, customers, industries and geographies served. With respect to some of its geographies and products, JPMorgan Chase competes globally; with respect to others, the Firm competes on a national or regional basis. The Firm's ability to compete also depends on its ability to attract and retain professional and other personnel, and on its reputation.

It is likely that competition in the financial services industry will become even more intense as the Firm's businesses continue to compete with other financial institutions that may have a stronger local presence in certain geographies or that operate under different rules and regulatory regimes than the Firm, or with companies that provide new or innovative products or services that the Firm is unable to provide.

Supervision and regulation

The Firm is subject to regulation under state and federal laws in the U.S., as well as the applicable laws of each of the various jurisdictions outside the U.S. in which the Firm does business.

As a result of regulatory reforms enacted and proposed in the U.S. and abroad, the Firm has been experiencing a period of significant change in regulation which has had and could continue to have significant consequences for how the Firm conducts business. The Firm continues to work diligently in assessing the regulatory changes it is facing, and is devoting substantial resources to comply with all the new regulations, while, at the same time, endeavoring to best meet the needs and expectations of its customers, clients and shareholders. These efforts include the implementation of new policies, procedures and controls, and appropriate adjustments to the Firm's business and operations, legal entity structure and capital and liquidity management. The combined effect of numerous rule-makings by multiple governmental agencies and regulators, and the potential conflicts or inconsistencies among such rules, present challenges and risks to the Firm's business and operations. Given the current status of the regulatory developments, the Firm cannot currently quantify all of the possible effects on its business and operations of the significant changes that are underway. For more information, see Risk Factors on pages 8–18.

Financial holding company:

Consolidated supervision by the Board of Governors of the Federal Reserve System (the "Federal Reserve"). As a bank holding company ("BHC") and a financial holding company, JPMorgan Chase is subject to comprehensive consolidated supervision, regulation and examination by the Federal Reserve. The Federal Reserve acts as an "umbrella regulator" and certain of JPMorgan Chase's subsidiaries are regulated directly by additional authorities based on the particular activities of those subsidiaries. For example, JPMorgan Chase's national bank subsidiaries, such as JPMorgan Chase Bank, N.A., and Chase Bank USA, N.A., are subject to supervision and regulation by the Office of the Comptroller of the Currency ("OCC") and, with respect to certain matters, by the Federal Reserve and the Federal Deposit Insurance Corporation (the "FDIC"). Certain non-bank subsidiaries, such as the Firm's U.S. broker-dealers, are subject to supervision and regulation by the SEC, and subsidiaries of the Firm that engage in certain futures-related and swaps-related activities are subject to supervision and regulation by the Commodity Futures Trading Commission ("CFTC"). See Securities and broker-dealer regulation, Investment management regulation and Derivatives regulation below. In addition, the Firm's consumer activities are subject to supervision and regulation by the Consumer Financial Protection Bureau ("CFPB") and to regulation under various state statutes which are enforced by the respective state's Attorney General.

Scope of permissible business activities. The Bank Holding Company Act generally restricts BHCs from engaging in business activities other than the business of banking and certain closely related activities. Financial holding companies generally can engage in a broader range of financial activities than are otherwise permissible for BHCs, including underwriting, dealing and making markets in securities, and making merchant banking investments in non-financial companies. The Federal Reserve has the authority to limit a financial holding company's ability to conduct activities that would otherwise be permissible if the financial holding company or any of its depositary institution subsidiaries ceases to meet the applicable eligibility requirements (including requirements that the financial holding company and each of its U.S. depository institution subsidiaries maintain their status as "well-capitalized" and "well-managed"). The Federal Reserve may also impose corrective capital and/or managerial requirements on the financial holding company and may, for example, require divestiture of the holding company's

depository institutions if the deficiencies persist. Federal regulations also provide that if any depository institution controlled by a financial holding company fails to maintain a satisfactory rating under the Community Reinvestment Act, the Federal Reserve must prohibit the financial holding company and its subsidiaries from engaging in any activities other than those permissible for bank holding companies. In addition, a financial holding company must obtain Federal Reserve approval before engaging in certain banking and other financial activities both in the U.S. and internationally, as further described under Regulation of acquisitions below.

Activities restrictions under the Volcker Rule. Section 619 of the Wall Street Reform and Consumer Protection Act (the "Dodd-Frank Act") (the "Volcker Rule") prohibits banking entities, including the Firm, from engaging in certain "proprietary trading" activities, subject to exceptions for underwriting, market-making, risk-mitigating hedging and certain other activities. In addition, the Volcker Rule limits the sponsorship of, and investment in, "covered funds" (as defined by the Volcker Rule) and imposes limits on certain transactions between the Firm and its sponsored funds (see JPMorgan Chase's subsidiary banks — Restrictions on transactions with affiliates below). The Volcker Rule, which became effective in July 2015, requires banking entities to establish comprehensive compliance programs reasonably designed to help ensure and monitor compliance with the restrictions under the Volcker Rule, including, in order to distinguish permissible from impermissible risk-taking activities, the measurement, monitoring and reporting of certain key metrics. Given the uncertainty and complexity of the Volcker Rule's framework, the full impact of the Volcker Rule will ultimately depend on its ongoing interpretation by the five regulatory agencies responsible for its oversight.

Capital and liquidity requirements. The Federal Reserve establishes capital and leverage requirements for the Firm and evaluates its compliance with such requirements. The OCC establishes similar capital and leverage requirements for the Firm’s national banking subsidiaries. For more information about the applicable requirements relating to risk-based capital and leverage in the U.S. under the most recent capital framework established by the Basel Committee on Banking Supervision (the “Basel Committee”)(“Basel III”), see Capital Management on pages 149–158 and Note 28. Under Basel III, bank holding companies and banks are required to measure their liquidity against two specific liquidity tests: the liquidity coverage ratio (“LCR”) and the net stable funding ratio (“NSFR”). The U.S. banking regulators have approved the final LCR rule (“U.S. LCR”), which became effective on January 1, 2015. A proposed U.S. rule for NSFR is expected. For additional information on these ratios, see Liquidity Risk Management on pages 159–164. It is likely that the banking supervisors will continue to refine and enhance the Basel III capital framework for financial institutions. The Basel Committee recently finalized revisions to market risk capital for trading books; other proposals being contemplated by the Basel Committee include revisions to, among others, standardized credit and operational risk capital frameworks and revisions to the securitization framework. After a proposal is finalized by the Basel Committee, U.S. banking regulators would then need to propose requirements applicable to U.S. financial institutions.

Stress tests. The Federal Reserve has adopted supervisory stress tests for large bank holding companies, including JPMorgan Chase, which form part of the Federal Reserve's annual Comprehensive Capital Analysis and Review ("CCAR") framework. Under the framework, the Firm must conduct semi-annual company-run stress tests and, in addition, must submit an annual capital plan to the Federal Reserve, taking into account the results of separate stress tests designed by the Firm and the Federal Reserve. In reviewing the Firm's capital plan, the Federal Reserve considers both quantitative and qualitative factors. Qualitative assessments include (among other things) the comprehensiveness of the plan, the assumptions and analysis underlying the plan, and the extent to which the Firm has satisfied certain supervisory matters related to the Firm's processes and analyses, including the design and operational effectiveness of the controls governing such processes. Moreover, the Firm is required to receive a notice of non-objection from the Federal Reserve before taking capital actions, such as paying dividends, implementing common equity repurchase programs or redeeming or repurchasing capital instruments. The OCC requires JPMorgan Chase Bank, N.A. to perform separate, similar annual stress tests. The Firm publishes each year the results of its mid-cycle stress tests under the Firm's internally-developed "severely adverse" scenario and the results of its (and its two primary subsidiary banks') annual stress tests under the supervisory "severely adverse" scenarios provided by the Federal Reserve and the OCC. Commencing with the 2016 CCAR, the annual CCAR submission will be due on April 5. Results will be published by the Federal Reserve by June 30, with disclosures of results by BHCs, including the Firm, to follow within 15 days. Also commencing in 2016, the mid-cycle capital stress test submissions will be due on October 5 and BHCs, including the Firm, will publish results by November 4. The Federal Reserve has indicated that it is currently evaluating the inclusion of all or part of the global systemically important bank ("GSIB") surcharge into the 2017 CCAR test and the Firm is currently awaiting further guidance. For additional information on the Firm's CCAR, see Capital Management on pages 149–158.

Enhanced prudential standards. The Financial Stability Oversight Council ("FSOC"), among other things, recommends prudential standards and reporting and disclosure requirements to the Federal Reserve for systemically important financial institutions, such as JPMorgan Chase. The Federal Reserve has adopted several rules to implement the heightened prudential standards, including final rules relating to risk management and corporate governance of subject BHCs. BHCs with $50 billion or more in total consolidated assets are required to comply with enhanced liquidity and overall risk

management standards, including a buffer of highly liquid assets based on projected funding needs for 30 days, and their board of directors is required to conduct appropriate oversight of their risk management activities. For information on liquidity measures, see Liquidity Risk Management on pages 159–164. Several additional proposed rules are still being considered, including rules relating to single-counterparty credit limits and an "early remediation" framework to address financial distress or material management weaknesses.

Risk reporting. In January 2013, the Basel Committee issued new regulations relating to risk aggregation and reporting. Under these regulations, the banking institution's risk governance framework must encompass risk-data aggregation and reporting, and data aggregation must be highly automated and allow for minimal manual intervention. The regulations also impose higher standards for the accuracy, comprehensiveness, granularity and timely distribution of data reporting, and call for regular supervisory review of the banking institution's risk aggregation and reporting. These new standards became effective for GSIBs, including the Firm, on January 1, 2016.

Orderly liquidation authority and resolution and recovery. As a BHC with assets of $50 billion or more, the Firm is required to submit annually to the Federal Reserve and the FDIC a plan for resolution under the Bankruptcy Code in the event of material distress or failure (a "resolution plan"). The FDIC also requires each insured depositary institution with $50 billion or more in assets, such as JPMorgan Chase Bank, N.A. and Chase Bank USA, N.A., to provide a resolution plan. For more information about the Firm's resolution plan, see Risk Factors on pages 8–18. In addition, certain financial companies, including JPMorgan Chase and certain of its subsidiaries, can be subjected to resolution under an "orderly liquidation authority." The U.S. Treasury Secretary, in consultation with the President of the United States, must first make certain extraordinary financial distress and systemic risk determinations, and action must be recommended by the FDIC and the Federal Reserve. Absent such actions, the Firm, as a BHC, would remain subject to resolution under the Bankruptcy Code. In December 2013, the FDIC issued a draft policy statement describing its "single point of entry" strategy for resolution of systemically important financial institutions under the orderly liquidation authority. This strategy seeks to keep operating subsidiaries of the BHC open and impose losses on shareholders and creditors of the holding company in receivership according to their statutory order of priority.

The Firm has a comprehensive recovery plan detailing the actions it would take to avoid failure by remaining well-capitalized and well-funded in the case of an adverse event. JPMorgan Chase has provided the Federal Reserve with comprehensive confidential supervisory information and analyses about the Firm's businesses, legal entities and corporate governance and about its crisis management governance, capabilities and available alternatives to raise liquidity and capital in severe market circumstances. The

Part I

OCC has published for comment proposed guidelines establishing standards for recovery planning by insured national banks, including JPMorgan Chase Bank, N.A. and Chase Bank USA, N.A.

Regulators in the U.S. and abroad continue to be focused on developing measures designed to address the possibility or perception that large financial institutions, including the Firm, may be "too big to fail," and to provide safeguards so that, if a large financial institution does fail, it can be resolved without the use of public funds. Higher capital surcharges on GSIBs, requirements for certain large bank holding companies to maintain a minimum amount of long-term debt to facilitate orderly resolution of those firms, and the International Swaps and Derivatives Association ("ISDA") protocol relating to the "close-out" of derivatives transactions during the resolution of a large cross-border financial institution, are examples of initiatives to address "too big to fail." For further information on the potential impact of the GSIB framework and Total Loss Absorbing Capacity ("TLAC"), see Capital Management on pages 149–158 and Risk Factors on pages 8–18, and on the ISDA close-out protocol, see Derivatives regulation below.

Holding company as source of strength for bank subsidiaries. JPMorgan Chase & Co. is required to serve as a source of financial strength for its depository institution subsidiaries and to commit resources to support those subsidiaries. This support may be required by the Federal Reserve at times when the Firm might otherwise determine not to provide it.

Regulation of acquisitions. Acquisitions by bank holding companies and their banks are subject to multiple requirements by the Federal Reserve and the OCC. For example, financial holding companies and bank holding companies are required to obtain the approval of the Federal Reserve before they may acquire more than 5% of the voting shares of an unaffiliated bank. In addition, acquisitions by financial companies are prohibited if, as a result of the acquisition, the total liabilities of the financial company would exceed 10% of the total liabilities of all financial companies. In contrast, because the liabilities of non-U.S. financial companies are calculated differently under this rule, a non-U.S. financial company could hold significantly more than 10% of the U.S. market without exceeding the concentration limit. In addition, for certain acquisitions, the Firm must provide written notice to the Federal Reserve prior to acquiring direct or indirect ownership or control of any voting shares of any company with over $10 billion in assets that is engaged in activities that are "financial in nature".

JPMorgan Chase's subsidiary banks:

The Firm's two primary subsidiary banks, JPMorgan Chase Bank, N.A. and Chase Bank USA, N.A., are FDIC-insured national banks regulated by the OCC. As national banks, the activities of JPMorgan Chase Bank, N.A. and Chase Bank USA, N.A. are limited to those specifically authorized under the National Bank Act and related interpretations by the OCC.

FDIC deposit insurance. The FDIC deposit insurance fund provides insurance coverage for certain deposits, which is funded through assessments on banks, such as JPMorgan Chase Bank, N.A. and Chase Bank USA, N.A. Changes in the methodology used to calculate such assessments, resulting from the enactment of the Dodd-Frank Act, significantly increased the assessments that the Firm's bank subsidiaries pay annually to the FDIC. In October 2015, the FDIC proposed a new assessment surcharge on insured depository institutions with total consolidated assets greater than $10 billion in order to raise the reserve ratio for the FDIC deposit insurance fund. Future FDIC rule-making could further increase such assessments.

FDIC powers upon a bank insolvency. Upon the insolvency of an insured depository institution, such as JPMorgan Chase Bank, N.A., the FDIC may be appointed as the conservator or receiver under the Federal Deposit Insurance Act ("FDIA"). In addition, where a systemically important financial institution, such as JPMorgan Chase & Co., is "in default" or "in danger of default", the FDIC may be appointed as receiver in order to conduct an orderly liquidation. In both cases, the FDIC has broad powers to transfer any assets and liabilities without the approval of the institution's creditors.

Cross-guarantee. An FDIC-insured depository institution can be held liable for any loss incurred or expected to be incurred by the FDIC if another FDIC-insured institution that is under common control with such institution is in default or is deemed to be "in danger of default" (commonly referred to as "cross-guarantee" liability). An FDIC cross-guarantee claim against a depository institution is generally superior in right of payment to claims of the holding company and its affiliates against such depository institution.

Prompt corrective action and early remediation. The Federal Deposit Insurance Corporation Improvement Act of 1991 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. While these regulations apply only to banks, such as JPMorgan Chase Bank, N.A. and Chase Bank USA, N.A., the Federal Reserve is authorized to take appropriate action against the parent BHC, such as JPMorgan Chase & Co., based on the undercapitalized status of any bank subsidiary. In certain instances, the BHC would be required to guarantee the performance of the capital restoration plan for its undercapitalized subsidiary.

OCC Heightened Standards. The OCC has issued final regulations and guidelines establishing heightened standards for large banks. The guidelines establish minimum standards for the design and implementation of a risk governance framework for banks. While the bank may use certain components of the parent company’s risk governance framework, the framework must ensure that the bank’s risk profile is easily distinguished and separate from the parent for risk management purposes. The bank’s board or risk committee is responsible for approving the bank's risk governance framework, providing active oversight of the bank's risk-taking activities and holding management accountable for adhering to the risk governance framework.

Restrictions on transactions with affiliates. The bank subsidiaries of JPMorgan Chase (including subsidiaries of those banks) are subject to certain restrictions imposed by federal law on extensions of credit to, investments in stock or securities of, and derivatives, securities lending and certain other transactions with, JPMorgan Chase & Co. and certain other affiliates. These restrictions prevent JPMorgan Chase & Co. and other affiliates from borrowing from such subsidiaries unless the loans are secured in specified amounts and comply with certain other requirements. For more information, see Note 27. In addition, the Volcker Rule imposes a prohibition on such transactions between any JPMorgan Chase entity and covered funds for which a JPMorgan Chase entity serves as the investment manager, investment advisor, commodity trading advisor or sponsor, as well as, subject to a limited exception, any covered fund controlled by such funds.

Dividend restrictions. Federal law imposes limitations on the payment of dividends by national banks, such as JPMorgan Chase Bank, N.A. and Chase Bank USA, N.A. See Note 27 for the amount of dividends that the Firm's principal bank subsidiaries could pay, at January 1, 2016, to their respective bank holding companies without the approval of their banking regulators.

In addition to the dividend restrictions described above, the OCC and the Federal Reserve have authority to prohibit or limit the payment of dividends of the bank subsidiaries they supervise, 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 bank.

Depositor preference. Under federal law, the claims of a receiver of an insured depository institution for administrative expense and the claims of holders of U.S. deposit liabilities (including the FDIC) have priority over the claims of other unsecured creditors of the institution, including public noteholders and depositors in non-U.S. offices. As a result, such persons could receive substantially less than the depositors in U.S. offices of the depository institution. The U.K. Prudential Regulation Authority (the "PRA"), a subsidiary of the Bank of England which has responsibility for prudential regulation of banks and other systemically important institutions, has issued a proposal that may require the Firm to either obtain equal treatment for U.K. depositors or "subsidiarize" in the U.K. In September 2013, the FDIC issued a final rule which clarifies that foreign deposits are considered deposits under the FDIA if they are payable in the U.S. as well as in the foreign branch.

CFPB regulation and supervision, and other consumer regulations. JPMorgan Chase and its national bank subsidiaries, including JPMorgan Chase Bank, N.A. and Chase Bank USA, N.A., are subject to supervision and regulation by the CFPB with respect to federal consumer

protection laws, including laws relating to fair lending and the prohibition of unfair, deceptive or abusive acts or practices in connection with the offer, sale or provision of consumer financial products and services. These laws include the Truth-in-Lending, Equal Credit Opportunity ("ECOA"), Fair Credit Reporting, Fair Debt Collection Practice, Electronic Funds Transfer, Credit Card Accountability, Responsibility and Disclosure ("CARD") and Home Mortgage Disclosure Acts. The CFPB also has authority to impose new disclosure requirements for any consumer financial product or service. The CFPB has issued informal guidance on a variety of topics (such as the collection of consumer debts and credit card marketing practices) and has taken enforcement actions against certain financial institutions. Much of the CFPB's initial rule-making efforts have addressed mortgage related topics, including ability to repay and qualified mortgage standards, mortgage servicing standards, loan originator compensation standards, high-cost mortgage requirements, Home Mortgage Disclosure Act requirements, appraisal and escrow standards and requirements for higher-priced mortgages. Other areas of recent focus include pre-authorized electronic funds transfers, "add-on" products, matters involving consumer populations considered vulnerable by the CFPB (such as students), credit reporting, and the furnishing of credit scores to individuals. The CFPB has been focused on automobile dealer discretionary interest rate markups, and on holding the Firm and other purchasers of such contracts ("indirect lenders") responsible under the ECOA for statistical disparities in markups charged by the dealers to borrowers of different races or ethnicities. For information regarding a current investigation relating to indirect lending to automobile dealers, see Note 31.

Securities and broker-dealer regulation:

The Firm conducts securities underwriting, dealing and brokerage activities in the U.S. through J.P. Morgan Securities LLC and other broker-dealer subsidiaries, all of which are subject to regulations of the SEC, the Financial Industry Regulatory Authority and the New York Stock Exchange, among others. The Firm conducts similar securities activities outside the U.S. subject to local regulatory requirements. In the U.K., those activities are conducted by J.P. Morgan Securities plc, which is regulated by the PRA and by the Financial Conduct Authority ("FCA"), which regulates prudential matters for firms that are not so regulated by the PRA and conduct matters for all market participants. 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 customer's funds, the financing of clients' purchases, capital structure, record-keeping and retention, and the conduct of their directors, officers and employees. For information on the net capital of J.P. Morgan Securities LLC and J.P. Morgan Clearing Corp., and the applicable requirements relating to risk-based capital for J.P. Morgan Securities plc, see Broker-dealer regulatory capital on page 158. Future rule-making under the Dodd-Frank Act and rules proposed by the Department of Labor may impose (among other things) a new standard of care applicable to broker-dealers when dealing with customers.

Investment management regulation:

The Firm's investment management business is subject to significant regulation in numerous jurisdictions around the world relating to, among other things, the safeguarding of client assets, offerings of funds, marketing activities, transactions among affiliates and management of client funds. Certain of the Firm's subsidiaries are registered with, and subject to oversight by, the SEC as investment advisers. As such, the Firm's registered investment advisers are subject to the fiduciary and other obligations imposed under the Investment Advisers Act of 1940 and the rules and regulations promulgated thereunder, as well as various state securities laws. For information regarding investigations and litigation in connection with disclosures to clients related to proprietary products, see Note 31.

The Firm's asset management business continues to be affected by ongoing rule-making. In July 2013, the SEC adopted amendments to rules that govern money-market funds, requiring a floating net asset value for institutional prime money-market funds, effective October 14, 2016. As noted above, the Department of Labor has also proposed a rule that would significantly expand the universe of persons viewed as investment fiduciaries to retirement plans and IRAs. In addition, the SEC has issued proposed rules regarding enhanced liquidity risk management for open-end mutual funds and exchange-traded funds ("ETFs"); restrictions on the use of derivatives by mutual funds, ETFs and closed-end funds; and enhanced reporting for funds and advisors.

Derivatives regulation:

The Firm is subject to comprehensive regulation of its derivatives businesses. The regulations impose capital and margin requirements, require central clearing of standardized over-the-counter derivatives, require that certain standardized over-the-counter swaps be traded on regulated trading venues, and provide for reporting of certain mandated information. In addition, the Dodd-Frank Act requires the registration of "swap dealers" and "major swap participants" with the CFTC and of "security-based swap dealers" and "major security-based swap participants" with the SEC. JPMorgan Chase Bank, N.A., J.P. Morgan Securities LLC, J.P. Morgan Securities plc and J.P. Morgan Ventures Energy Corporation have registered with the CFTC as swap dealers, and JPMorgan Chase Bank, N.A., J.P. Morgan Securities LLC and J.P. Morgan Securities plc will likely be required to register with the SEC as security-based swap dealers. As a result of their registration as swap dealers or security-based swap dealers, these entities will be subject to a new, comprehensive regulatory framework applicable to their swap or security-based swap activities, which includes capital requirements, rules regulating their swap activities, rules requiring the collateralization of uncleared swaps, rules regarding segregation of

counterparty collateral, business conduct and documentation standards, record-keeping and reporting obligations, and anti-fraud and anti-manipulation requirements. Further, some of the rules for derivatives apply extraterritorially to U.S. firms doing business with clients outside of the U.S., as well as to the overseas activities of non-U.S. subsidiaries of the Firm that either deal with U.S. persons or that are guaranteed by U.S. subsidiaries of the Firm; however, the full scope of the extra-territorial impact of the U.S. swaps regulation has not been finalized and therefore remains unclear. The effect of these rules may require banking entities, such as the Firm, to modify the structure of their derivatives businesses and face increased operational and regulatory costs. In the European Union (the "EU"), the implementation of the European Market Infrastructure Regulation ("EMIR") and the revision of the Markets in Financial Instruments Directive ("MiFID II") will result in comparable, but not identical, changes to the European regulatory regime for derivatives. The combined effect of the U.S. and EU requirements, and the potential conflicts and inconsistencies between them, present challenges and risks to the structure and operating model of the Firm's derivatives businesses.

In November 2015, the Firm and other financial institutions agreed to adhere to an updated Resolution Stay Protocol developed by ISDA in response to regulator concerns that the close-out of derivatives transactions during the resolution of a large cross-border financial institution could impede resolution efforts and potentially destabilize markets. The Resolution Stay Protocol provides for the contractual recognition of cross-border stays under various statutory resolution regimes and a contractual stay on certain cross-default rights.

In the U.S., two subsidiaries of the Firm are registered as futures commission merchants, and other subsidiaries are either registered with the CFTC as commodity pool operators and commodity trading advisors or exempt from such

registration. These CFTC-registered subsidiaries are also members of the National Futures Association.
Data regulation:
The Firm and its subsidiaries are subject to federal, state and international laws and regulations concerning the use and protection of certain customer, employee and other personal and confidential information, including those imposed by the Gramm-Leach-Bliley Act and the Fair Credit Reporting Act, as well as the EU Data Protection Directive.
In addition, there are numerous proposals pending before U.S. and non-U.S. legislative and regulatory bodies regarding privacy and data protection. For example, the European Parliament and the European Council have reached agreement on certain data protection reforms proposed by the European Commission which includes numerous operational requirements, adds a requirement to notify individuals of data breaches and establishes enhanced sanctions for non-compliance, including increased fines.

The Bank Secrecy Act and Economic Sanctions:
The Bank Secrecy Act ("BSA") requires all financial institutions, including banks and securities broker-dealers, to, among other things, establish a risk-based system of internal controls reasonably designed to prevent money laundering and the financing of terrorism. The BSA includes a variety of record-keeping and reporting requirements (such as cash transaction and suspicious activity reporting), as well as due diligence/know your customer documentation requirements. In January 2013, the Firm entered into Consent Orders with its banking regulators relating to the Firm's Bank Secrecy Act/Anti-Money Laundering policies, procedures and controls; the Firm has taken significant steps to modify and enhance its processes and controls with respect to its Anti-Money Laundering procedures and to remediate the issues identified in the Consent Order. The Firm is also subject to the regulations and economic sanctions programs administered by the U.S. Treasury's Office of Foreign Assets Control ("OFAC").
Anti-Corruption:
The Firm is subject to laws and regulations relating to corrupt and illegal payments to government officials and others in the jurisdictions in which it operates, including the U.S. Foreign Corrupt Practices Act and the U.K. Bribery Act. For more information on a current investigation relating to, among other things, the Firm's hiring of persons referred by government officials and clients, see Note 31.
Compensation practices:
The Firm's compensation practices are subject to oversight by the Federal Reserve, as well as other agencies. The Federal Reserve has issued guidance jointly with the FDIC and the OCC that is designed to ensure that incentive compensation paid by banking organizations does not encourage imprudent risk-taking that threatens the organizations' safety and soundness. In addition, under the Dodd-Frank Act, federal regulators, including the Federal Reserve, must issue regulations or guidelines requiring covered financial institutions, including the Firm, to report the structure of all of their incentive-based compensation arrangements and prohibit incentive-based payment arrangements that encourage inappropriate risks by providing compensation that is excessive or that could lead to material financial loss to the institution. The Federal Reserve has conducted a review of the incentive compensation policies and practices of a number of large banking institutions, including the Firm. In addition to the Federal Reserve, the Financial Stability Board has established standards covering compensation principles for banks. In Europe, the Fourth Capital Requirements Directive (CRD IV) includes compensation provisions. In the U.K., compensation standards are governed by the Remuneration Code of the PRA and the FCA. The implementation of the Federal Reserve's and other banking regulators' guidelines regarding compensation are expected to evolve over the next several years, and may affect the manner in which the Firm structures its compensation programs and practices.

Significant international regulatory initiatives:
The EU operates a European Systemic Risk Board which monitors financial stability, together with European Supervisory Agencies which set detailed regulatory rules and encourage supervisory convergence across the 28 Member States. The EU has also created a Single Supervisory Mechanism for the euro-zone, under which the regulation of all banks in that zone will be under the auspices of the European Central Bank, together with a Single Resolution Mechanism and Single Resolution Board, having jurisdiction over bank resolution in the zone. At both global and EU levels, various proposals are under consideration to address risks associated with global financial institutions. Some of the initiatives adopted include increased capital requirements for certain trading instruments or exposures and compensation limits on certain employees located in affected countries.
In the EU, there is an extensive and complex program of final and proposed regulatory enhancement which reflects, in part, the EU's commitments to policies of the Group of Twenty Finance Ministers and Central Bank Governors ("G-20") together with other plans specific to the EU. This program includes EMIR, which requires, among other things, the central clearing of standardized derivatives; and MiFID II, which gives effect to the G-20 commitment to trading of derivatives through central clearing houses and exchanges and also includes significantly enhanced requirements for pre- and post-trade transparency and a significant reconfiguration of the regulatory supervision of execution venues. The EU is also currently considering or implementing significant revisions to laws covering: depositary activities; credit rating activities; resolution of banks, investment firms and market infrastructures; anti-money-laundering controls; data security and privacy; corporate governance in financial firms; and implementation in the EU of the

Basel III capital and liquidity standards.

Following the issuance of the Report of the High Level Expert Group on Reforming the Structure of the EU Banking Sector (the "Liikanen Group"), the EU has proposed legislation providing for a proprietary trading ban and mandatory separation of other trading activities within certain banks, while various EU Member States have separately enacted similar measures. In the U.K., legislation was adopted that mandates the separation (or "ring-fencing") of deposit-taking activities from securities trading and other analogous activities within banks, subject to certain exemptions. The legislation includes the supplemental recommendation of the Parliamentary Commission on Banking Standards (the "Tyrie Commission") that such ring-fences should be "electrified" by the imposition of mandatory forced separation on banking institutions that are deemed to test the limits of the safeguards. Parallel but distinct provisions have been enacted by the French, Belgian and German governments. These measures may separately or taken together have significant implications for the Firm's organizational structure in Europe, as well as its permitted activities and capital deployment in the EU.

U.K. regulators are introducing a range of policy measures that make significant changes to the regulatory environment in the U.K. Alongside broader recommendations made by the Fair and Effective Markets Review which focused on fixed income currencies and commodities markets, there is a focus by U.K. regulators on raising standards and accountability of individuals, and promoting forward-looking conduct risk identification and mitigation, including by introducing the new Senior Managers and Certification Regimes.

Item 1A: RISK FACTORS

The following discussion sets forth the material risk factors that could affect JPMorgan Chase's financial condition and operations. Readers should not consider any descriptions of such factors to be a complete set of all potential risks that could affect the Firm.

Regulatory Risk

JPMorgan Chase operates within a highly regulated industry, and the Firm's businesses and results are significantly affected by the laws and regulations to which the Firm is subject.

As a global financial services firm, JPMorgan Chase is subject to extensive and comprehensive regulation under federal and state laws in the U.S. and the laws of the various jurisdictions outside the U.S. in which the Firm does business. The financial services industry has experienced and continues to experience an unprecedented increase in regulations and supervision, both in the U.S. and globally, and the cumulative effect of all of the new and proposed legislation and regulations on the Firm's business, operations and profitability remains uncertain.

The recent legislative and regulatory developments, as well as future legislative or regulatory actions in the U.S. and in the other countries in which the Firm operates, and any required changes to the Firm's business or operations resulting from such developments and actions, could result in a significant loss of revenue for the Firm, impose additional compliance and other costs on the Firm or otherwise reduce the Firm's profitability, limit the products and services that the Firm offers or its ability to pursue business opportunities in which it might otherwise consider engaging, require the Firm to dispose of or curtail certain businesses, affect the value of assets that the Firm holds, require the Firm to increase its prices and therefore reduce demand for its products, or otherwise adversely affect the Firm's businesses. In addition, to the extent that legislative or regulatory initiatives are imposed on a limited subset of financial institutions (based on size, activities, geography or other criteria), the requirements to which the Firm may be subject under such laws and regulations could require the Firm to restructure its businesses, or re-price or curtail the products or services that it offers to customers, which could result in the Firm not being able to compete effectively with other institutions that are not impacted in the same way.

In addition, there can be significant differences in the ways that similar regulatory initiatives affecting the financial services industry are implemented in the U.S. and in different countries and regions in which JPMorgan Chase does business. For example, recent legislative and regulatory initiatives within the EU, including those relating to the resolution of financial institutions, the separation of trading activities from core banking services, mandatory on-exchange trading, position limits and reporting rules for derivatives, conduct of business requirements, restrictions on compensation and governance and accountability regimes, could require the Firm to make significant modifications to its non-U.S. business, operations and legal entity structure in order to comply with these requirements. These differences in implemented or proposed non-U.S. regulations and initiatives may be inconsistent or may conflict with current or proposed regulations in the U.S., which could subject the Firm to increased compliance and legal costs, as well as higher operational, capital and liquidity costs, all of which could have an adverse effect on the Firm's business, results of operations and profitability.

Expanded regulatory and governmental oversight of JPMorgan Chase's businesses may continue to increase the Firm's costs and risks.

The Firm's businesses and operations are increasingly subject to heightened governmental and regulatory oversight and scrutiny. The Firm has paid significant fines (or has provided significant monetary and other relief) to resolve a number of investigations or enforcement actions by governmental agencies. The Firm continues to devote substantial resources to satisfying the requirements of regulatory consent orders and other settlements to which it is subject, which increases the Firm's operational and compliance costs.

Certain regulators have taken measures in connection with specific enforcement actions against financial institutions (including the Firm) that require admissions of wrongdoing and compliance with other conditions in connection with settling such matters. Such admissions and conditions can lead to, among other things, greater exposure in civil litigation, harm to reputation, disqualification from providing business to certain clients and in certain jurisdictions, and other direct and indirect adverse effects.

In addition, U.S. government officials have indicated and demonstrated a willingness to bring criminal actions against financial institutions, including the Firm, and have increasingly sought, and obtained, resolutions that include criminal pleas from those institutions, such as the Firm's agreement in May 2015 to plead guilty to a single violation of federal antitrust law in connection with its settlements with certain government authorities relating to its foreign exchange sales and trading activities and controls related to those activities. Such resolutions, whether with U.S. or non-U.S. authorities, could have significant collateral consequences for a subject financial institution, including loss of customers and business, or the inability to offer certain products or services, or losing permission to operate certain businesses, for a period of time (absent the forbearance of, or the granting of waivers by, applicable regulators).

The Firm expects that it and the financial services industry as a whole will continue to be subject to heightened regulatory scrutiny and governmental investigations and enforcement actions and that violations of law will more frequently be met with formal and punitive enforcement action, including the imposition of significant monetary and other sanctions, rather than with informal supervisory action.

In addition, if the Firm fails to meet the requirements of the various governmental settlements to which it is subject, or more generally, to maintain risk and control procedures and processes that meet the heightened standards established by its regulators and other government agencies, it could be required to enter into further orders and settlements, pay additional fines, penalties or judgments, or accept material regulatory restrictions on its businesses. The extent of the Firm's exposure to legal and regulatory matters may be unpredictable and could, in some cases, substantially exceed the amount of reserves that the Firm has established for such matters.

Requirements for the orderly resolution of the Firm could require JPMorgan Chase to restructure or reorganize its businesses, and holders of JPMorgan Chase's debt and equity securities would be at risk of absorbing losses if the Firm were to enter into a resolution.

Under Title I of the Dodd-Frank Act ("Title I") and Federal Reserve and FDIC rules, the Firm is required to prepare and submit periodically to the Federal Reserve and the FDIC a detailed plan for the orderly resolution of JPMorgan Chase & Co. and certain of its subsidiaries under the U.S. Bankruptcy Code and other applicable insolvency laws in the event of future material financial distress or failure. In August 2014, the Federal Reserve and the FDIC announced the completion of their reviews of the second round of Title I resolution plans submitted by eleven large, complex banking organizations in 2013, including the Firm. The agencies jointly identified specific shortcomings with the 2013 resolution plans, including the Firm's 2013 plan. The FDIC's board of directors determined under Title I that the 2013 resolution plans, including the Firm's 2013 plan, were not credible and did not facilitate an orderly resolution under the U.S. Bankruptcy Code. The Federal Reserve Board determined that the eleven banking organizations must take immediate actions to improve their resolvability and reflect those improvements in their 2015 plans. The Firm has devoted significant resources to its resolution planning efforts, and believes that in its most recent Title I resolution plan submitted to the Federal Reserve and FDIC in July 2015, it has addressed, or has made substantial progress in addressing, each of the shortcomings previously identified by the agencies.

However, if the Federal Reserve and the FDIC were to jointly determine that the Firm's 2015 plan, or any future update of that plan, is not credible, and the Firm is unable to remedy the identified deficiencies in a timely manner, the regulators may jointly impose more stringent capital,

leverage or liquidity requirements on the Firm or restrictions on growth, activities or operations of the Firm, and could, if such deficiencies are not remedied within two years after such a determination, require the Firm to restructure, reorganize or divest businesses, legal entities, operational systems and/or intercompany transactions in ways that could materially and adversely affect the Firm's operations and strategy. In addition, in order to develop a Title I resolution plan that the Federal Reserve and FDIC determine is credible, the Firm may need to make certain changes to its legal entity structure and to certain intercompany and external activities, which could result in increased funding or operational costs.

In addition to the Firm's plan for orderly resolution, the Firm's resolution plan also recommends to the Federal Reserve and the FDIC its proposed optimal strategy to resolve the Firm under the special resolution procedure provided in Title II of the Dodd-Frank Act ("Title II"). The Firm's recommendation involves a "single point of entry" recapitalization model in which the FDIC would use its power to create a "bridge entity" for JPMorgan Chase; transfer the systemically important and viable parts of the Firm's business, principally the stock of JPMorgan Chase & Co.'s main operating subsidiaries and any intercompany claims against such subsidiaries, to the bridge entity; recapitalize those subsidiaries by, among other things, converting some or all of such intercompany claims to capital; and exchange external debt claims against JPMorgan Chase & Co. for equity in the bridge entity. As discussed below, the Federal Reserve has also proposed rules regarding the minimum levels of unsecured external long-term debt and other loss-absorbing capacity that bank holding companies would be required to have issued and outstanding, as well as guidelines defining the terms of qualifying debt instruments, to ensure that adequate levels of debt are maintained at the holding company level for purposes of recapitalization of the bridge entity and operating subsidiaries ("eligible LTD"). If JPMorgan

Chase & Co. were to enter into a resolution, either in a proceeding under the U.S. Bankruptcy Code or in a receivership administered by the FDIC under Title II of the Dodd-Frank Act, holders of eligible LTD and other debt and equity securities of the Firm would be at risk of absorbing the losses of JPMorgan Chase & Co. and its affiliates. If JPMorgan Chase & Co. commenced proceedings under the U.S. Bankruptcy Code, creditors and shareholders of JPMorgan Chase & Co. would realize value only to the extent available to JPMorgan Chase & Co. as a shareholder of JPMorgan Chase Bank, N.A. and its other subsidiaries, after the payment to the creditors of such subsidiaries. In addition, even under the Firm’s preferred resolution strategy under Title II of the Dodd-Frank Act, the value of the stock of the bridge entity that would be redistributed to holders of the Firm’s eligible LTD and other debt securities may not be sufficient to repay all or part of the principal amount and interest on such debt. It is also possible that the application of the Firm’s recommended Title II strategy could result in greater losses to security holders of JPMorgan Chase & Co. than the losses that would result from a different resolution strategy for the Firm.

Market Risk

JPMorgan Chase's results of operations have been, and may continue to be, adversely affected by U.S. and global financial market and economic conditions.

JPMorgan Chase's businesses are materially affected by economic and market conditions, including the liquidity of the global financial markets; the level and volatility of debt and equity prices, interest rates, currency and commodities prices (including oil prices) and other market indices; investor, consumer and business sentiment; events that reduce confidence in the financial markets; inflation and unemployment; the availability and cost of capital and credit; the economic effects of natural disasters, health emergencies or pandemics, severe weather conditions, outbreaks of hostilities, terrorism or other geopolitical instabilities; monetary policies and actions taken by the Federal Reserve and other central banks; and the health of the U.S. and global economies. These conditions can affect the Firm's businesses both directly and through their impact on the businesses and activities of the Firm's clients and customers.

In the Firm's underwriting and advisory businesses, the above-mentioned factors can affect the volume of transactions that the Firm executes for its clients and customers and, therefore, the revenue that the Firm receives, as well as the willingness of other financial institutions and investors to participate in loan syndications or underwritings managed by the Firm.

The Firm generally maintains market-making positions in the fixed income, currency, commodities, credit and equity markets to facilitate client demand and provide liquidity to clients. The revenue derived from these positions is affected by many factors, including the Firm's success in effectively hedging its market and other risks; volatility in interest rates and equity, debt and commodities markets; interest rate and credit spreads; and the availability of liquidity in the capital markets, all of which are affected by global economic and market conditions. Certain of the Firm's market-making positions could be adversely affected by the lack of liquidity, which will be influenced by many of these factors, and which could affect the Firm's ability to realize returns from such activities and adversely affect the Firm's earnings.

The Firm may be adversely affected by declining asset values. This is particularly true for businesses that earn fees for managing third-party assets or receive or post collateral. For example, a higher level of U.S. or non-U.S. interest rates or a downturn in financial markets could affect the valuations of the client assets that the Firm manages or holds in custody, which, in turn, could affect the Firm's revenue. Macroeconomic or market concerns may also prompt outflows from the Firm's funds or accounts or cause clients to invest funds in products that generate lower revenue.

Changes in interest rates will affect the level of assets and liabilities held on the Firm's balance sheet and the revenue that the Firm earns from net interest income. A low interest rate environment may compress net interest margins, reducing the amounts that the Firm earns on its investment securities portfolio, or reducing the value of its mortgage servicing rights ("MSR") asset, thereby reducing the Firm's net interest income and other revenues. Conversely, increasing or high interest rates may result in increased funding costs, lower levels of commercial and residential loan originations and diminished returns on the investment securities portfolio (to the extent that the Firm is unable to reinvest contemporaneously in higher-yielding assets), thereby adversely affecting the Firm's revenues and capital levels.

The Firm's consumer businesses are particularly affected by U.S. domestic economic conditions, including U.S. interest rates, the rate of unemployment, housing prices, the level of consumer confidence, changes in consumer spending and the number of personal bankruptcies. If the recent positive trends in the U.S. economy are not sustained, this could diminish demand for the products and services of the Firm's consumer businesses, or increase the cost to provide such products and services. In addition, adverse economic conditions, such as declines in home prices or persistent high levels of unemployment due to economic dislocations in certain geographies or industries caused by falling oil and gas prices or other market or economic factors, could lead to an increase in mortgage, credit card, auto, student and other loan delinquencies and higher net charge-offs, which can reduce the Firm's earnings.

Widening of credit spreads makes it more expensive for the Firm to borrow on both a secured and unsecured basis, and may adversely affect the credit markets and the Firm's businesses. Credit spreads widen or narrow not only in response to Firm-specific events and circumstances, but also as a result of general economic and geopolitical events and conditions. Changes in the Firm's credit spreads will impact, positively or negatively, the Firm's earnings on certain liabilities that are recorded at fair value.

Sudden and significant volatility in the prices of securities and other assets (including loans and derivatives) may curtail the trading markets for such securities and assets, make it difficult to sell or hedge such securities and assets, adversely affect the Firm's profitability, capital or liquidity, or increase the Firm's funding costs. Sustained volatility in the financial markets may also negatively affect consumer or investor confidence, which could lead to lower client activity and decreased revenue for the Firm.

Credit Risk

The financial condition of JPMorgan Chase's customers, clients and counterparties, particularly other financial institutions, could adversely affect the Firm.

The Firm routinely executes transactions with counterparties in the financial services industry, including brokers and dealers, commercial banks, investment banks, mutual and hedge funds, investment managers and other institutional clients. Many of these transactions expose the Firm to credit risk and, in some cases, disputes and litigation in the event of a default by the counterparty or client. The failure of a significant market participant, or concerns about a default by such an institution, could also lead to significant liquidity problems for, or losses or defaults by, other institutions, which in turn could adversely affect the Firm. In addition, in recent years the perceived interrelationship among financial institutions has also led to claims by other market participants and regulators that the Firm and other financial institutions have allegedly violated anti-trust or anti-competition laws by colluding to manipulate markets, prices or indices, and there is no assurance that such allegations will not arise in the same or similar contexts in the future.

As part of providing clearing services, the Firm is a member of a number of central counterparties ("CCPs"), and may be required to pay a portion of the losses incurred by such organizations as a result of the default of other members. As a clearing member, the Firm is also exposed to the risk of non-performance by its clients, which it seeks to mitigate through the maintenance of adequate collateral. In addition, the Firm can be exposed to intra-day credit risk of its clients in connection with providing cash management, clearing, custodial and other transaction services to such clients. If a client for which the Firm provides such services becomes bankrupt or insolvent, the Firm may suffer losses, become involved in disputes and litigation with various parties, including one or more CCPs, or the client's bankruptcy estate and other creditors, or involved in regulatory investigations. All of such events can increase the Firm's operational and litigation costs and may result in losses if any collateral received by the Firm is insufficient to cover such losses.

During periods of market stress or illiquidity, the Firm's credit risk also may be further increased when the Firm cannot realize the fair value of the collateral held by it or when collateral is liquidated at prices that are not sufficient to recover the full amount of the loan, derivative or other exposure due to the Firm. Further, disputes with obligors as to the valuation of collateral could increase in times of significant market stress, volatility or illiquidity, and the Firm could suffer losses during such periods if it is unable to realize the fair value of collateral or manage declines in the value of collateral.

Concentration of credit and market risk could increase the potential for significant losses.

JPMorgan Chase has exposure to increased levels of risk when customers or counterparties are engaged in similar business activities or activities in the same geographic region, or when they have similar economic features that would cause their ability to meet contractual obligations to be similarly affected by changes in economic conditions. For example, a significant deterioration in the credit quality of one of the Firm's borrowers or counterparties could lead to concerns about the credit quality of other borrowers or counterparties in similar, related or dependent industries and thereby could exacerbate the Firm's credit risk exposure and potentially increase its losses, including mark-to-market losses in its trading businesses. Similarly, challenging economic conditions affecting a particular industry or geographic area could lead to concerns about the credit quality of the Firm's borrowers or counterparties, not only in that particular industry or geography but in

related or dependent industries, wherever located, or about the ability of customers of the Firm's consumer businesses living in such areas or working in such affected industries or related or dependent industries to meet their obligations to the Firm. As a result, the Firm regularly monitors various segments of its exposures to assess potential concentration or contagion risks. The Firm's efforts to diversify or hedge its exposures against concentration risks may not be successful.

In addition, disruptions in the liquidity or transparency of the financial markets may result in the Firm's inability to sell, syndicate or realize the value of its positions, thereby leading to increased concentrations. The inability to reduce the Firm's positions may not only increase the market and credit risks associated with such positions, but may also increase the level of risk-weighted assets on the Firm's balance sheet, thereby increasing its capital requirements and funding costs, all of which could adversely affect the operations and profitability of the Firm's businesses.

Liquidity Risk

If JPMorgan Chase does not effectively manage its liquidity, its business could suffer.

JPMorgan Chase's liquidity is critical to its ability to operate its businesses. Some potential conditions that could impair the Firm's liquidity include markets that become illiquid or are otherwise experiencing disruption, unforeseen cash or capital requirements (including, among others, commitments that may be triggered to special purpose entities ("SPEs") or other entities), difficulty in selling or inability to sell assets, default by a CCP or other counterparty, unforeseen outflows of cash or collateral, and lack of market or customer confidence in the Firm or financial markets in general. These conditions may be caused by events over which the Firm has little or no control. The widespread crisis in investor confidence and resulting liquidity crisis experienced in 2008 and into early 2009 increased the Firm's cost of funding and limited its access to some of its traditional sources of liquidity (such as securitized debt offerings backed by mortgages, credit card receivables and other assets) during that time, and there is no assurance that these severe conditions could not occur in the future.

If the Firm's access to stable and low cost sources of funding, such as bank deposits, is reduced, the Firm may need to raise alternative funding which may be more expensive or of limited availability. In addition, the Firm's cost of funding could be affected by actions that the Firm may take in order to satisfy applicable liquidity coverage ratio and net stable funding ratio requirements, to lower its GSIB systemic risk score or to satisfy the amount of eligible LTD that the Firm must have outstanding under the final TLAC rules.

As a holding company, JPMorgan Chase & Co. relies on the earnings of its subsidiaries for its cash flow and, consequently, its ability to pay dividends and satisfy its debt and other obligations. These payments by subsidiaries may take the form of dividends, loans or other payments. Several of JPMorgan Chase & Co.'s principal subsidiaries are subject to dividend distribution, capital adequacy or liquidity coverage requirements or other regulatory restrictions on their ability to provide such payments. Limitations in the payments that JPMorgan Chase & Co. receives from its subsidiaries could reduce its ability to pay dividends and satisfy its debt and other obligations.

Proposed banking regulations relating to liquidity, including U.S. rules relating to total loss-absorbing capacity, could require JPMorgan Chase to issue a substantial amount of new debt, and thereby significantly increase its funding costs.

On October 30, 2015, the Federal Reserve issued proposed rules (the "proposed TLAC rules") that would require the top-tier holding companies of eight U.S. global systemically important bank holding companies ("U.S. GSIB BHCs"), including JPMorgan Chase & Co., among other things, to maintain minimum amounts of eligible LTD, commencing January 1, 2019. The proposed TLAC rules would disqualify from eligible LTD, among other instruments, senior debt securities that permit acceleration for reasons other than insolvency or payment default, as well as debt securities that are not governed by U.S. law and structured notes. The currently outstanding senior long-term debt of U.S. GSIB BHCs, including JPMorgan Chase & Co., includes structured notes as well as other debt that typically permits acceleration for reasons other than insolvency or payment default and, as a result, none of such outstanding senior long-term debt or any subsequently issued senior long-term debt with similar terms would qualify as eligible LTD under the proposed TLAC rules. The Federal Reserve has requested comment on whether certain currently outstanding instruments should be allowed to count as eligible LTD "despite containing features that would be prohibited under the proposal." The steps that the U.S. GSIB BHCs, including JPMorgan Chase & Co., may need to take to come into compliance with the final TLAC rules, including the amount and form of long-term debt that must be refinanced or issued, will depend in substantial part on the ultimate eligibility requirements for senior long-term debt and any grandfathering provisions. To the extent that outstanding senior long-term debt of JPMorgan Chase & Co. is not classified as eligible LTD under the TLAC rule as finally adopted by the Federal Reserve, the Firm could be required to issue a substantial amount of new senior long-term debt which could significantly increase the Firm's funding costs.

Authorities in some non-U.S. jurisdictions in which the Firm has operations have enacted legislation or regulations requiring that certain subsidiaries of the Firm operating in those countries maintain independent capital and liquidity. In addition, some non-U.S. regulators have proposed that large banks which conduct certain businesses in their jurisdictions operate through separate subsidiaries located in those countries. These requirements, and any future laws or regulations that seek to increase capital or liquidity requirements that would be applicable to non-U.S. subsidiaries of the Firm, could hinder the Firm's ability to efficiently manage its funding and liquidity in a centralized manner.

Reductions in JPMorgan Chase's credit ratings may adversely affect its liquidity and cost of funding, as well as the value of debt obligations issued by the Firm.

JPMorgan Chase & Co. and certain of its principal subsidiaries are currently rated by credit rating agencies. Rating agencies evaluate both general and firm- and industry-specific factors when determining their credit ratings for a particular financial institution, including economic and geopolitical trends, regulatory developments, future profitability, risk management practices, legal expenses, assumptions surrounding government support, and ratings differentials between bank holding companies and their bank and non-bank subsidiaries. Although the Firm closely monitors and manages, to the extent it is able, factors that could influence its credit ratings, there is no assurance that the Firm's credit ratings will not be lowered in the future, or that any such downgrade would not occur at times of broader market instability when the Firm's options for responding to events may be more limited and general investor confidence is low.

Furthermore, a reduction in the Firm's credit ratings could reduce the Firm's access to capital markets, materially increase the cost of issuing securities, trigger additional collateral or funding requirements, and decrease the number of investors and counterparties willing or permitted, contractually or otherwise, to do business with or lend to the Firm, thereby curtailing the Firm's business operations and reducing its profitability. In addition, any such reduction in credit ratings may increase the credit spreads charged by the market for taking credit risk on JPMorgan Chase & Co. and its subsidiaries and, as a result, could adversely affect the value of debt and other obligations that JPMorgan Chase & Co. and its subsidiaries have issued or may issue in the future.

Legal Risk

JPMorgan Chase faces significant legal risks, both from regulatory investigations and proceedings and from private actions brought against the Firm.

JPMorgan Chase is named as a defendant or is otherwise involved in various legal proceedings, including class actions and other litigation or disputes with third parties. Actions currently pending against the Firm may result in judgments, settlements, fines, penalties or other results adverse to the Firm, which could materially and adversely affect the Firm's business, financial condition or results of operations, or cause serious harm to the Firm's reputation. As a participant in the financial services industry, it is likely that the Firm will continue to experience a high level of litigation related to its businesses and operations.

In addition, and as noted above, the Firm's businesses and operations are also subject to heightened regulatory oversight and scrutiny, which may lead to additional regulatory investigations or enforcement actions. Regulators and other government agencies examine the operations of the Firm and its subsidiaries on both a routine- and targeted-exam basis, and there is no assurance that they will not pursue additional regulatory settlements or other enforcement actions against the Firm in the future.

A single event may give rise to numerous and overlapping investigations and proceedings, either by multiple federal and state agencies and officials in the U.S. or, in some instances, regulators and other governmental officials in non-U.S. jurisdictions. These and other initiatives from U.S. and non-U.S. governmental authorities and officials may subject the Firm to further judgments, settlements, fines or penalties, or cause the Firm to be required to restructure its operations and activities or to cease offering certain products or services, all of which could harm the Firm's reputation or lead to higher operational costs, thereby reducing the Firm's profitability, or result in collateral consequences as discussed above.

Other Business Risks

JPMorgan Chase's operations are subject to risk of loss from unfavorable economic, monetary and political developments in the U.S. and around the world.

JPMorgan Chase's businesses and earnings are affected by the fiscal and other policies that are adopted by various U.S. and non-U.S. regulatory authorities and agencies. The Federal Reserve regulates the supply of money and credit in the U.S. and its policies determine in large part the cost of funds for lending and investing in the U.S. and the return earned on those loans and investments. Changes in Federal Reserve policies (as well as the fiscal and monetary policies of non-U.S. central banks or regulatory authorities and agencies, such as "pegging" the exchange rate of their currency to the currencies of others) are beyond the Firm's control and may be difficult to predict, and consequently, unanticipated changes in these policies could have a negative impact on the Firm's activities and results of operations.

The Firm's businesses and revenue are also subject to risks inherent in investing and market-making in securities, loans and other obligations of companies worldwide. These risks include, among others, negative effects from slowing growth rates or recessionary economic conditions, or the risk of loss from unfavorable political, legal or other developments, including social or political instability, in the countries or regions in which such companies operate, as well as the other risks and considerations as described further below.

Several of the Firm's businesses engage in transactions with, or trade in obligations of, U.S. and non-U.S. governmental entities, including national, state, provincial, municipal and local authorities. These activities can expose the Firm to enhanced sovereign, credit-related, operational and reputation risks, including the risks that a governmental entity may default on or restructure its obligations or may claim that actions taken by government officials were beyond the legal authority of those officials, which could adversely affect the Firm's financial condition and results of operations.

Further, various countries or regions in which the Firm operates or invests, or in which the Firm may do so in the future, have in the past experienced severe economic disruptions particular to those countries or regions. Low or volatile oil prices, coupled with the slowdown in the

macroeconomic prospects in China, and concerns about economic weaknesses in the Eurozone (including the permanent resolution of the Greek "bailout" program), could continue to undermine investor confidence and affect the operating environment in 2016. In some cases, concerns regarding the fiscal condition of one or more countries can cause a contraction of available credit and reduced activity among trading partners or create market volatility that could lead to "market contagion" affecting other countries in the same region or beyond the region. Accordingly, it is possible that economic disruptions in certain countries, even in countries in which the Firm does not conduct business or have operations or engages in only limited activities, may adversely affect the Firm.

JPMorgan Chase's operations in emerging markets may be hindered by local political, social and economic factors, and may be subject to additional compliance costs and risks.

Some of the countries in which JPMorgan Chase conducts its businesses have economies or markets that are less developed and more volatile, and may have legal and regulatory regimes that are less established or predictable, than the U.S. and other developed markets in which the Firm currently operates. Some of these countries have in the past experienced severe economic disruptions, including extreme currency fluctuations, high inflation, low or negative growth, or defaults or potential defaults on sovereign debt, among other negative conditions, or have imposed restrictive monetary policies such as currency exchange controls and other laws and restrictions that adversely affect the local and regional business environment. In addition, these countries, as well as certain more developed countries, have recently been more susceptible to unfavorable political, social or economic developments; these development have in the past resulted in, and may in the future lead to, social unrest, general strikes and demonstrations, crime and corruption, security and personal safety issues, outbreaks of hostilities, overthrow of incumbent governments, terrorist attacks or other forms of internal discord, all of which can adversely affect the Firm's operations or investments in such countries. Political, social or economic disruption or dislocation in certain countries or regions in which the Firm conducts its businesses can hinder the growth and profitability of those operations.

Less developed legal and regulatory systems in certain countries can also have adverse consequences on the Firm's operations in those countries, including, among others, the absence of a statutory or regulatory basis or guidance for engaging in specific types of business or transactions; the promulgation of conflicting or ambiguous laws and regulations or the inconsistent application or interpretation of existing laws and regulations; uncertainty as to the enforceability of contractual obligations; difficulty in competing in economies in which the government controls or protects all or a portion of the local economy or specific businesses, or where graft or corruption may be pervasive; and the threat of arbitrary regulatory investigations, civil litigations or criminal prosecutions.

Part I

Revenue from international operations and trading in non-U.S. securities and other obligations may be subject to negative fluctuations as a result of the above considerations, as well as due to governmental actions including monetary policies, expropriation, nationalization, confiscation of assets, price controls, capital controls, exchange controls, and changes in laws and regulations. The impact of these fluctuations could be accentuated as some trading markets are smaller, less liquid and more volatile than larger markets. Also, any of the above-mentioned events or circumstances in one country can affect, and in the past conditions of these types have affected, the Firm's operations and investments in another country or countries, including the Firm's operations in the U.S. As a result, any such unfavorable conditions or developments could have an adverse impact on the Firm's business and results of operations.
Conducting business in countries with less developed legal and regulatory regimes often requires the Firm to devote significant additional resources to understanding, and monitoring changes in, local laws and regulations, as well as structuring its operations to comply with local laws and regulations and implementing and administering related internal policies and procedures. There can be no assurance that the Firm will always be successful in its efforts to conduct its business in compliance with laws and regulations in countries with less predictable legal and regulatory systems or that the Firm will be able to develop effective working relationships with local regulators. In addition, the Firm can also incur higher costs, and face greater compliance risks, in structuring and operating its businesses outside the U.S. to comply with U.S. anti-corruption and anti-money laundering laws and regulations.
JPMorgan Chase relies on the effectiveness and integrity of its processes, operating systems and employees, and those of third parties, and certain failures of such processes or systems or misconduct by such employees could materially and adversely affect the Firm's operations.
JPMorgan Chase's businesses are dependent on the Firm's ability to process, record and monitor an increasingly large number of complex transactions and to do so on a faster and more frequent basis. The Firm's front- and back-office trading systems similarly rely on their access to, and on the functionality of, the operating systems maintained by third parties such as clearing and payment systems, central counterparties, securities exchanges and data processing and technology companies. If the Firm's financial, accounting, trading or other data processing systems, or the operating systems of third parties on which the Firm's businesses are dependent, are unable to meet these increasingly demanding standards, or if they fail or have other significant shortcomings, the Firm could be materially and adversely affected. Moreover, as the speed, frequency, volume and complexity of transactions (and the requirements to report such transactions on a real-time basis to clients, regulators and financial intermediaries) increases, the risk of human and/or systems error in connection with such transactions increases, and it becomes

more challenging to maintain the Firm's operational systems and infrastructure. The Firm is similarly dependent on its employees. The Firm could be materially and adversely affected if one or more of its employees causes a significant operational breakdown or failure, either as a result of human error or where an individual purposefully sabotages or fraudulently manipulates the Firm's operations or systems. In addition, when the Firm changes processes or introduces new products and services or new connectivity solutions, the Firm may not fully appreciate or identify new operational risks that may arise from such changes. Any of these occurrences could diminish the Firm's ability to operate one or more of its businesses, or result in potential liability to clients and customers, increased operating expenses, higher litigation costs (including fines and sanctions), damage to reputation, impairment of liquidity, regulatory intervention or weaker competitive standing, any of which could materially and adversely affect the Firm.
Third parties with which the Firm does business, including retailers and other third parties with which the Firm's customers do business, can also be sources of operational risk to the Firm, particularly where activities of customers are beyond the Firm's security and control systems, such as through the use of the internet, personal smart phones and other mobile devices or services. As the Firm's interconnectivity with these third parties increases, the Firm increasingly faces the risk of operational failure with respect to their systems. Security breaches affecting the Firm's customers, or systems breakdowns or failures, security breaches or employee misconduct affecting such other third parties, may require the Firm to take steps to protect the integrity of its own operational systems or to safeguard confidential information of the Firm or its customers, thereby increasing the Firm's operational costs and potentially diminishing customer satisfaction. Furthermore, 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 the Firm's ability to conduct business.

The Firm's businesses are subject to complex and evolving U.S. and non-U.S. laws and regulations governing the privacy and protection of personal information of individuals (including clients, client's clients, employees of the Firm and its suppliers and other third parties). Ensuring that the Firm's collection, use, transfer and storage of personal information complies with all applicable laws and regulations, including where the laws of different jurisdictions are in conflict, can increase the Firm's operating costs, impact the development of new products or services and require significant oversight by management, and may require the Firm to structure its businesses, operations and systems in less efficient ways. Furthermore, the Firm may not be able to ensure that all of its clients, suppliers, counterparties and other third parties have appropriate controls in place to protect the confidentiality of the information exchanged between them and the Firm, particularly where such information is transmitted by electronic means. If personal, confidential or proprietary information of customers or clients or others were to be mishandled or misused (in situations where, for example, such information was erroneously provided to parties who are not permitted to have the information, or where such information was intercepted or otherwise compromised by third parties), the Firm could be exposed to litigation or regulatory sanctions. Concerns regarding the effectiveness of the Firm's measures to safeguard personal information, or even the perception that such measures are inadequate, could cause the Firm to lose customers or potential customers for its products and services and thereby reduce the Firm's revenues. Accordingly, any failure or perceived failure by the Firm to comply with applicable privacy or data protection laws and regulations may subject it to inquiries, examinations and investigations that could result in requirements to modify or cease certain operations or practices or in significant liabilities, fines or penalties, and could damage the Firm's reputation and otherwise adversely affect its businesses.

The Firm may be subject to disruptions of its operating systems arising from events that are wholly or partially beyond the Firm's control, which may include, for example, security breaches (as discussed further below); electrical or telecommunications outages; failures of computer servers or other damage to the Firm's property or assets; natural disasters or severe weather conditions; health emergencies or pandemics; or events arising from local or larger-scale political events, including outbreaks of hostilities or terrorist acts. JPMorgan Chase maintains a global resiliency and crisis management program that is intended to ensure that the Firm has the ability to recover its critical business functions and supporting assets, including staff, technology and facilities, in the event of a business interruption. While the Firm believes that its current resiliency plans are both sufficient and adequate, there can be no assurance that such plans will fully mitigate all potential business continuity risks to the Firm or its customers and clients. Any failures or disruptions of the Firm's systems or operations could give rise to losses in service to customers and clients, adversely affect the Firm's business and results of operations by subjecting the Firm to losses or liability, or require the Firm to expend significant resources to correct the failure or disruption, as well as by exposing the Firm to litigation, regulatory fines or penalties or losses not covered by insurance.

A breach in the security of JPMorgan Chase's systems, or those of other market participants, could disrupt the Firm's businesses, result in the disclosure of confidential information, damage its reputation and create significant financial and legal exposure for the Firm.

Although JPMorgan Chase devotes significant resources to maintain and regularly update its systems and processes that are designed to protect the security of the Firm's computer systems, software, networks and other technology assets, as well as the confidentiality, integrity and availability of information belonging to the Firm and its customers and clients, there is no assurance that all of the Firm's security measures will provide absolute security.

JPMorgan Chase and other companies have reported significant breaches in the security of their websites or other systems, some of which have involved sophisticated and targeted attacks intended to obtain unauthorized access to confidential information, destroy data, disrupt or degrade service, sabotage systems or cause other damage, including through the introduction of computer viruses or malware, cyberattacks and other means. The Firm is regularly targeted by unauthorized parties using malicious code and viruses, and has experienced several significant distributed denial-of-service attacks from technically sophisticated and well-resourced third parties which were intended to disrupt online banking services.

Despite the Firm's efforts to ensure the integrity of its systems, it is possible that the Firm may not be able to anticipate, detect or recognize threats to its systems or to implement effective preventive measures against all security breaches of these types inside or outside the Firm, especially because the techniques used change frequently or are not recognized until launched, and because cyberattacks can originate from a wide variety of sources, including third parties outside the Firm such as persons who are associated with external service providers or who are or may be involved in organized crime or linked to terrorist organizations or hostile foreign governments. Those parties may also attempt to fraudulently induce employees, customers, third-party service providers or other users of the Firm's systems to disclose sensitive information in order to gain access to the Firm's data or that of its customers or clients. These risks may increase in the future as the Firm continues to increase its mobile-payment and other internet-based product offerings and expands its internal usage of web-based products and applications.

A successful penetration or circumvention of the security of the Firm's systems or the systems of another market participant could cause serious negative consequences for the Firm, including significant disruption of the Firm's operations, misappropriation of confidential information of the Firm or that of its customers, or damage to computers or systems of the Firm and those of its customers and counterparties, and could result in violations of applicable privacy and other laws, financial loss to the Firm or to its customers, loss of confidence in the Firm's security measures, customer dissatisfaction, significant litigation exposure and harm to the Firm's reputation, all of which could have a material adverse effect on the Firm.

Risk Management

JPMorgan Chase's framework for managing risks and its risk management procedures and practices may not be effective in identifying and mitigating every risk to the Firm, thereby resulting in losses.

JPMorgan Chase's risk management framework seeks to mitigate risk and loss to the Firm. The Firm has established processes and procedures intended to identify, measure, monitor, report and analyze the types of risk to which the Firm is subject. However, as with any risk management framework, there are inherent limitations to the Firm's risk management strategies because there may exist, or develop in the future, risks that the Firm has not appropriately anticipated or identified. In addition, the Firm relies on data to aggregate and assess its various risk exposures, and any deficiencies in the quality or effectiveness of the Firm's data aggregation and validation procedures could result in ineffective risk management practices or inaccurate risk reporting. Any lapse in the Firm's risk management framework and governance structure or other inadequacies in the design or implementation of the Firm's risk management framework, governance, procedures, practices, models or risk reporting systems could, individually or in the aggregate, cause unexpected losses for the Firm, materially and adversely affect the Firm's financial condition and results of operations, require significant resources to remediate any risk management deficiency, attract heightened regulatory scrutiny, expose the Firm to regulatory investigations or legal proceedings, subject the Firm to fines, penalties or judgments, harm the Firm's reputation, or otherwise cause a decline in investor confidence.

The Firm's products, including loans, leases, lending commitments, derivatives and trading account assets, as well as the investment securities portfolio and cash management and clearing activities, expose the Firm to credit risk. The Firm has exposures arising from its many different products and counterparties, and the credit quality of the Firm's exposures can have a significant impact on its earnings. The Firm establishes allowances for probable credit losses inherent in its credit exposure, including unfunded lending-related commitments. The Firm also employs stress testing and other techniques to determine the capital and liquidity necessary to protect the Firm in the event of adverse economic or market events. These processes are critical to the Firm's financial results and condition, and require difficult, subjective and complex judgments, including forecasts of how economic conditions might impair the ability of the Firm's borrowers and counterparties to repay their loans or other obligations. As is the case with any such assessments, there is always the possibility that the Firm will fail to identify the proper factors or that the Firm will fail to accurately estimate the impact of factors that it identifies.

JPMorgan Chase's market-making businesses may expose the Firm to unexpected market, credit and operational risks that could cause the Firm to suffer unexpected losses. Severe declines in asset values, unanticipated credit events, or unforeseen circumstances that may cause previously uncorrelated factors to become correlated (and vice versa) may create losses resulting from risks not appropriately taken into account in the development, structuring or pricing of a financial instrument such as a derivative.

Certain of the Firm's trading transactions require the physical settlement by delivery of securities or other obligations that the Firm does not own; if the Firm is unable to obtain such securities or obligations within the required timeframe for delivery, this could cause the Firm to forfeit payments otherwise due to it and could result in settlement delays, which could damage the Firm's reputation and ability to transact future business. In addition, in situations

where trades are not settled or confirmed on a timely basis, the Firm may be subject to heightened credit and operational risk, and in the event of a default, the Firm may be exposed to market and operational losses. In particular, In addition, disputes with counterparties may arise regarding the terms or the settlement procedures of derivative contracts, including with respect to the value of underlying collateral, which could cause the Firm to incur unexpected costs, including transaction, operational, legal and litigation costs, or result in credit losses, all of which may impair the Firm's ability to manage effectively its risk exposure from these products.

In a difficult or less liquid market environment, the Firm's risk management strategies may not be effective because other market participants may be attempting to use the same or similar strategies to deal with the challenging market conditions. In such circumstances, it may be difficult for the Firm to reduce its risk positions due to the activity of such other market participants or widespread market dislocations.

Many of the Firm's risk management strategies or techniques have a basis in historical market behavior, and all such strategies and techniques are based to some degree on management's subjective judgment. For example, many models used by the Firm are based on assumptions regarding correlations among prices of various asset classes or other market indicators. In times of market stress, or in the event of other unforeseen circumstances, previously uncorrelated indicators may become correlated, or conversely, previously correlated indicators may make unrelated movements. These sudden market movements or unanticipated or unidentified market or economic movements have in some circumstances limited and could again limit the effectiveness of the Firm's risk management strategies, causing the Firm to incur losses.

Many of the models used by the Firm are subject to review not only by the Firm’s Model Risk function but also by the Firm’s regulators in order that the Firm may utilize such models in connection with the Firm’s calculations of market risk risk-weighted assets (“RWA”), credit risk RWA and operational risk RWA under the Advanced Approach of Basel III. The Firm may be subject to higher capital charges, which could adversely affect its financial results or limit its ability to expand its businesses, if such models do not receive approval by its regulators.

In addition, the Firm must comply with enhanced standards for the assessment and management of risks associated with vendors and other third parties that provide services to the Firm. These requirements apply to the Firm both under general guidance issued by its banking regulators and, more specifically, under certain of the consent orders to which the Firm has been subject. The Firm has incurred and expects to incur additional costs and expenses in connection with its initiatives to address the risks associated with oversight of its third party relationships. Failure by the Firm to appropriately assess and manage third party relationships, especially those involving significant banking functions, shared services or other critical activities, could result in potential liability to clients and customers, fines, penalties or judgments imposed by the Firm’s regulators, increased operating expenses and harm to the Firm’s reputation, any of which could materially and adversely affect the Firm.

Other Risks

The financial services industry is highly competitive, and JPMorgan Chase’s inability to compete successfully may adversely affect its results of operations.

JPMorgan Chase operates in a highly competitive environment, and the Firm expects that competition in the U.S. and global financial services industry will continue to be intense. Competitors of the Firm include other banks and financial institutions, trading, advisory and investment management firms, finance companies and technology companies and other firms that are engaged in providing similar products and services. Technological advances and the growth of e-commerce have made it possible for non-depository institutions to offer products and services that traditionally were banking products, and for financial institutions and other companies to provide electronic and internet-based financial solutions, including electronic securities trading and payment processing. New technologies have required and could require the Firm to spend more to modify or adapt its products to attract and retain customers or to match products and services offered by its competitors, including technology companies.

Ongoing or increased competition, on the basis of the quality and variety of products and services offered, transaction execution, innovation, reputation, price or other factors, may put downward pressure on prices for the Firm’s products and services or may cause the Firm to lose market share. In addition, the failure of any of the Firm’s businesses to meet the expectations of clients and customers, whether due to general market conditions or underperformance (relative to competitors or to benchmarks), could impact the Firm’s ability to retain clients and customers or attract new clients and customers, thereby reducing the Firm’s revenues. Increased competition also may require the Firm to make additional capital investments in its businesses, or to extend more of its capital on behalf of its clients in order to remain competitive. The Firm cannot provide assurance that the significant competition in the financial services industry will not materially and adversely affect its future results of operations.

Competitors of the Firm’s non-U.S. wholesale businesses are typically subject to different, and in some cases, less stringent, legislative and regulatory regimes. The more restrictive laws and regulations applicable to U.S. financial services institutions, such as JPMorgan Chase, can put the Firm at a competitive disadvantage to its non-U.S. competitors, including prohibiting the Firm from engaging in certain transactions, imposing higher capital and liquidity requirements on the Firm, making the Firm’s pricing of certain transactions more expensive for clients or adversely affecting the Firm’s cost structure for providing certain products, all of which can reduce the revenue and profitability of the Firm’s wholesale businesses.

JPMorgan Chase’s ability to attract and retain qualified employees is critical to its success.

JPMorgan Chase’s employees are the Firm’s most important resource, and in many areas of the financial services industry, competition for qualified personnel is intense. The Firm endeavors to attract talented and diverse new employees and retain and motivate its existing employees. The Firm also seeks to retain a pipeline of senior employees with superior talent, augmented from time to time by external hires, to provide continuity of succession for the Firm’s Operating Committee, including the Chief Executive Officer position, and senior positions below the Operating Committee. The Firm regularly reviews candidates for senior management positions to assess whether they currently are ready for a next-level role. In addition, the Firm’s Board of Directors is deeply involved in succession planning, including review of the succession plans for the Chief Executive Officer and the members of the Operating Committee. If for any reason the Firm were unable to continue to attract or retain qualified employees, including successors to the Chief Executive Officer or members of the Operating Committee, the Firm’s performance, including its competitive position, could be materially and adversely affected.

JPMorgan Chase’s financial statements are based in part on estimates and judgments which, if incorrect, could result in unexpected losses in the future.

Under accounting principles generally accepted in the U.S. (“U.S. GAAP”), JPMorgan Chase is required to use estimates and apply judgments in preparing its financial statements, including in determining allowances for credit losses and reserves related to litigation, among other items. Certain of the Firm’s financial instruments, including trading assets and liabilities, instruments in the investment securities portfolio, certain loans, MSRs, structured notes and certain repurchase and resale agreements, among other items, require a determination of their fair value in order to prepare the Firm’s financial statements. Where quoted market prices are not available, the Firm may make fair value determinations based on internally developed models or other means which ultimately rely to some degree on management estimates and judgment. In addition, sudden illiquidity in markets or declines in prices of certain loans and securities may make it more difficult to value certain balance sheet items, which may lead to the possibility that such valuations will be subject to further change or adjustment. If estimates or judgments underlying the Firm’s financial statements are incorrect, the Firm may experience material losses.

Lapses in disclosure controls and procedures or internal control over financial reporting could materially and adversely affect the Firm’s operations, profitability or reputation.

There can be no assurance that the Firm’s disclosure controls and procedures will be effective in every circumstance or that a material weakness or significant deficiency in internal control over financial reporting will not occur. Any such lapses or deficiencies may materially and adversely affect the Firm’s business and results of operations or financial condition, restrict its ability to access the capital markets, require the Firm to expend significant resources to correct the lapses or deficiencies, expose the Firm to regulatory or legal proceedings, subject it to fines, penalties or judgments, harm the Firm’s reputation, or otherwise cause a decline in investor confidence.

Damage to JPMorgan Chase’s reputation could damage its businesses.

Maintaining trust in JPMorgan Chase is critical to the Firm’s ability to attract and maintain customers, investors and employees. Damage to the Firm’s reputation can therefore cause significant harm to the Firm’s business and prospects. Harm to the Firm’s reputation can arise from numerous sources, including, among others, employee misconduct, security breaches, compliance failures, litigation or regulatory outcomes or governmental investigations. The Firm’s reputation could also be harmed by the failure or perceived failure of an affiliate, joint-venturer or merchant banking portfolio company, or a vendor or other third party with which the Firm does business, to comply with laws or regulations. In addition, a failure or perceived failure to deliver appropriate standards of service and quality, to treat customers and clients fairly, to provide fiduciary products or services in accordance with the appropriate standards, or to handle or use confidential information of customers or clients appropriately or in compliance with applicable data protection and privacy laws and regulations can result in customer dissatisfaction, litigation and heightened regulatory scrutiny, all of which can lead to lost revenue, higher operating costs and harm to the Firm’s reputation. Adverse publicity or negative information posted on social media websites regarding the Firm, whether or not true, may result in harm to the Firm’s prospects.

Management of potential conflicts of interests has become increasingly complex as the Firm continues to expand its business activities through more numerous transactions, obligations and interests with and among the Firm’s clients. The failure or perceived failure to adequately address or appropriately disclose conflicts of interest has given rise to litigation and enforcement actions and may do so in the future and could affect the willingness of clients to deal with the Firm, as well as cause serious harm to the Firm’s reputation.

Actions by the financial services industry generally or by certain members of or individuals in the industry can also affect the Firm’s reputation. For example, the role played by financial services firms during the financial crisis, including concerns that consumers have been treated unfairly by financial institutions, has damaged the reputation of the industry as a whole. Should any of these or other events or factors that can undermine the Firm’s reputation occur, there is no assurance that the additional costs and expenses that the Firm may need to incur to address the issues giving rise to the damage to its reputation could not adversely affect the Firm’s earnings and results of operations, or that damage to the Firm’s reputation will not impair the Firm’s ability to retain its existing or attract new customers, investors and employees.

ITEM 1B: UNRESOLVED SEC STAFF COMMENTS

None.

ITEM 2: PROPERTIES

JPMorgan Chase's headquarters is located in New York City at 270 Park Avenue, a 50-story office building it owns. The Firm owned or leased facilities in the following locations at December 31, 2015.

December 31, 2015 (in millions)	Approximate square footage
United States[(a)]	
New York City, New York	
270 Park Ave, New York, New York	1.3
All other New York City locations	9.0
Total New York City, New York	10.3
Other U.S. locations	
Columbus/Westerville, Ohio	3.7
Chicago, Illinois	3.4
Wilmington/Newark, Delaware	2.2
Houston, Texas	2.2
Dallas/Fort Worth, Texas	2.0
Phoenix/Tempe, Arizona	1.8
Jersey City, New Jersey	1.6
All other U.S. locations	37.1
Total United States	64.3
Europe, the Middle East and Africa ("EMEA")[(b)]	
25 Bank Street, London, U.K.	1.4
All other U.K. locations	3.2
All other EMEA locations	0.9
Total EMEA	5.5
Asia Pacific, Latin America and Canada	
India	2.3
All other locations	3.9
Total Asia Pacific, Latin America and Canada	6.2
Total	76.0

(a) At December 31, 2015, the Firm owned or leased 5,413 retail branches in 23 states.

(b) In 2008, JPMorgan Chase acquired a 999-year leasehold interest in land at London's Canary Wharf. JPMorgan Chase has a building agreement in place through October 30, 2016, to develop the Canary Wharf site for future use.

The properties occupied by JPMorgan Chase are used across all of the Firm's business segments and for corporate purposes. JPMorgan Chase continues to evaluate its current and projected space requirements and may determine from time to time that certain of its premises and facilities are no longer necessary for its operations. There is no assurance that the Firm will be able to dispose of any such excess premises or that it will not incur charges in connection with such dispositions. Such disposition costs may be material to the Firm's results of operations in a given period. For information on occupancy expense, see the Consolidated Results of Operations on pages 72–74.

ITEM 3: LEGAL PROCEEDINGS

For a description of the Firm's material legal proceedings, see Note 31.

ITEM 4: MINE SAFETY DISCLOSURES

Not applicable.

Part II

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

Market for registrant's common equity

The outstanding shares of JPMorgan Chase common stock are listed and traded on the New York Stock Exchange and the London Stock Exchange. For the quarterly high and low prices of and cash dividends declared on JPMorgan Chase's common stock for the last two years, see the section entitled "Supplementary information – Selected quarterly financial data (unaudited)" on pages 309–310. For a comparison of the cumulative total return for JPMorgan Chase common stock with the comparable total return of the S&P 500 Index, the KBW Bank Index and the S&P Financial Index over the five-year period ended December 31, 2015, see "Five-year stock performance", on page 67.

For information on the common dividend payout ratio, see Capital actions in the Capital Management section of Management's discussion and analysis on page 157. For a discussion of restrictions on dividend payments, see Note 22 and Note 27. At January 31, 2016, there were 200,881 holders of record of JPMorgan Chase common stock. For information regarding securities authorized for issuance under the Firm's employee stock-based compensation plans, see Part III, Item 12 on page 23.

Repurchases under the common equity repurchase program

For information regarding repurchases under the Firm's common equity repurchase program, see Capital actions in the Capital Management section of Management's discussion and analysis on page 157.

Shares repurchased, on a settlement-date basis, pursuant to the common equity repurchase program during 2015 were as follows.

Year ended December 31, 2015	Total shares of common stock repurchased	Average price paid per share of common stock[b]	Aggregate repurchases of common equity (in millions)[b]	Dollar value of remaining authorized repurchase (in millions)[b]	
First quarter	32,531,294	$58.40	$1,900	$1,984	(a)
Second quarter[a]	19,129,714	65.32	1,249	5,180	
Third quarter	19,100,389	65.30	1,248	3,932	
October	9,247,060	61.42	567	3,365	
November	4,511,071	66.44	300	3,065	
December	5,321,146	66.12	352	2,713	
Fourth quarter	19,079,277	63.92	1,219	2,713	
Year-to-date	89,840,674	$62.51	$5,616	$2,713	(c)

(a) The unused portion under the prior Board authorization was canceled when the $6.4 billion program was authorized. Repurchases during the second quarter included $29 million under the prior program.

(b) Excludes commissions cost.

(c) Dollar value remaining under the $6.4 billion program.

ITEM 6: SELECTED FINANCIAL DATA

For five-year selected financial data, see "Five-year summary of consolidated financial highlights (unaudited)" on page 66.

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

Management's discussion and analysis of financial condition and results of operations, entitled "Management's discussion and analysis," appears on pages 68–173. Such information should be read in conjunction with the

Consolidated Financial Statements and Notes thereto, which appear on pages 176–308.

ITEM 7A: QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

For a discussion of the quantitative and qualitative disclosures about market risk, see the Market Risk Management section of Management's discussion and analysis on pages 133–139.

ITEM 8: FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

The Consolidated Financial Statements, together with the Notes thereto and the report thereon dated February 23, 2016, of PricewaterhouseCoopers LLP, the Firm's independent registered public accounting firm, appear on pages 175–308.

Supplementary financial data for each full quarter within the two years ended December 31, 2015, are included on pages 309–310 in the table entitled "Selected quarterly financial data (unaudited)." Also included is a "Glossary of terms'' on pages 311–315.

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

None.

ITEM 9A: CONTROLS AND PROCEDURES

The internal control framework promulgated by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO"), "Internal Control — Integrated Framework" ("COSO 2013") provides guidance for designing, implementing and conducting internal control and assessing its effectiveness. The Firm used the COSO 2013 framework to assess the effectiveness of the Firm's internal control over financial reporting as of December 31, 2015. See "Management's report on internal control over financial reporting" on page 174.

As of the end of the period covered by this report, an evaluation was carried out under the supervision and with the participation of the Firm's management, including its Chairman and Chief Executive Officer and its Chief Financial Officer, of the effectiveness of its disclosure controls and procedures (as defined in Rule 13a-15(e) under the Securities Exchange Act of 1934). Based on that evaluation, the Chairman and Chief Executive Officer and the Chief Financial Officer concluded that these disclosure controls and procedures were effective. See Exhibits 31.1 and 31.2 for the Certification statements issued by the Chairman and Chief Executive Officer and Chief Financial Officer.

The Firm is committed to maintaining high standards of internal control over financial reporting. Nevertheless, because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. In addition, in a firm as large and complex as JPMorgan Chase, lapses or deficiencies in internal controls may occur from time to time, and there can be no assurance that any such deficiencies will not result in significant deficiencies or material weaknesses in internal control in the future. For further information, see "Management's report on internal control over financial reporting" on page 174. There was no change in the Firm's internal control over financial reporting (as defined in Rule 13a-15(f) under the Securities Exchange Act of 1934) that occurred during the three months ended December 31,

2015, that has materially affected, or is reasonably likely to materially affect, the Firm's internal control over financial reporting.

ITEM 9B: OTHER INFORMATION

Pursuant to Section 219 of the Iran Threat Reduction and Syria Human Rights Act of 2012, which added Section 13(r) to the Securities Exchange Act of 1934, an issuer is required to disclose in its annual or quarterly reports, as applicable, whether it or any of its affiliates knowingly engaged in certain activities, transactions or dealings relating to Iran or with individuals or entities designated pursuant to certain Executive Orders. Disclosure is generally required even where the activities, transactions or dealings were conducted in compliance with applicable law. Except as set forth below, as of the date of this report, the Firm is not aware of any other activity, transaction or dealing by any of its affiliates during the year ended December 31, 2015 that requires disclosure under Section 219.

During 2015, JPMorgan Chase Bank, N.A. processed one payment from Iran Airtours on behalf of a U.S. client into such client's account at JPMorgan Chase Bank, N.A. Iran Airtours is a subsidiary of Iran Air, which, at the time of the payment, was designated pursuant to Executive Order 13382. This transaction was authorized by and conducted pursuant to a license from the Treasury Department's OFAC. JPMorgan Chase Bank, N.A. charged a fee of U.S. dollar $4.25 for this transaction. JPMorgan Chase Bank, N.A. may in the future engage in similar transactions for its clients to the extent permitted by U.S. law.

ITEM 10: DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

Executive officers of the registrant

Name	Age (at December 31, 2015)	Positions and offices
James Dimon	59	Chairman of the Board, Chief Executive Officer and President.
Ashley Bacon	46	Chief Risk Officer since June 2013. He had been Deputy Chief Risk Officer since June 2012, prior to which he had been Global Head of Market Risk for the Investment Bank (now part of Corporate & Investment Bank).
Stephen M. Cutler[(a)]	54	Vice Chairman since January 1, 2016, prior to which he had been General Counsel.
John L. Donnelly	59	Head of Human Resources.
Mary Callahan Erdoes	48	Chief Executive Officer of Asset Management.
Stacey Friedman[(a)]	47	General Counsel since January 1, 2016, prior to which she was Deputy General Counsel since July 2015 and General Counsel for the Corporate & Investment Bank since August 2012. Prior to joining JPMorgan Chase in 2012, she was a partner at the law firm of Sullivan & Cromwell LLP.
Marianne Lake	46	Chief Financial Officer since January 1, 2013, prior to which she had been Chief Financial Officer of Consumer & Community Banking since 2009.
Douglas B. Petno	50	Chief Executive Officer of Commercial Banking since January 2012. He had been Chief Operating Officer of Commercial Banking since October 2010, prior to which he had been Global Head of Natural Resources in the Investment Bank (now part of Corporate & Investment Bank).
Daniel E. Pinto	53	Chief Executive Officer of the Corporate & Investment Bank since March 2014 and Chief Executive Officer of Europe, the Middle East and Africa since June 2011. He had been Co-Chief Executive Officer of the Corporate & Investment Bank from July 2012 until March 2014, prior to which he had been head or co-head of the Global Fixed Income business from November 2009 until July 2012.
Gordon A. Smith	57	Chief Executive Officer of Consumer & Community Banking since December 2012 prior to which he had been Co-Chief Executive Officer since July 2012. He had been Chief Executive Officer of Card Services since 2007 and of the Auto Finance and Student Lending businesses since 2011.
Matthew E. Zames	45	Chief Operating Officer since April 2013 and head of Mortgage Banking Capital Markets since January 2012. He had been Co-Chief Operating Officer from July 2012 until April 2013. He had been Chief Investment Officer from May until September 2012, co-head of the Global Fixed Income business from November 2009 until May 2012 and co-head of Mortgage Banking Capital Markets from July 2011 until January 2012, prior to which he had served in a number of senior Investment Banking Fixed Income management roles.

(a) On January 1, 2016, Ms. Friedman was named General Counsel and appointed to the Operating Committee. At that date, Mr. Cutler became Vice Chairman of JPMorgan Chase and retired from the Operating Committee; he is no longer an executive officer of the registrant.

Unless otherwise noted, during the five fiscal years ended December 31, 2015, all of JPMorgan Chase's above-named executive officers have continuously held senior-level positions with JPMorgan Chase. There are no family relationships among the foregoing executive officers. Information to be provided in Items 10, 11, 12, 13 and 14 of the Form 10-K and not otherwise included herein is incorporated by reference to the Firm's definitive proxy statement for its 2016 Annual Meeting of Stockholders to be held on May 17, 2016, which will be filed with the SEC within 120 days of the end of the Firm's fiscal year ended December 31, 2015.

ITEM 11: EXECUTIVE COMPENSATION
See Item 10.

ITEM 12: SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS
For security ownership of certain beneficial owners and management, see Item 10.
The following table sets forth the total number of shares available for issuance under JPMorgan Chase's employee stock-based incentive plans (including shares available for issuance to nonemployee directors). The Firm is not authorized to grant stock-based incentive awards to nonemployees, other than to nonemployee directors.

December 31, 2015	Number of shares to be issued upon exercise of outstanding options/stock appreciation rights	Weighted-average exercise price of outstanding options/stock appreciation rights	Number of shares remaining available for future issuance under stock compensation plans
Plan category			
Employee stock-based incentive plans approved by shareholders	43,466,314	$43.51	93,491,401 (a)
Total	43,466,314	$43.51	93,491,401

(a) Represents future shares available under the shareholder-approved Long-Term Incentive Plan, as amended and restated effective May 19, 2015.

All future shares will be issued under the shareholder-approved Long-Term Incentive Plan, as amended and restated effective May 19, 2015. For further discussion, see Note 10.
ITEM 13: CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE
See Item 10.
ITEM 14: PRINCIPAL ACCOUNTING FEES AND SERVICES
See Item 10.

Part IV

ITEM 15: EXHIBITS, FINANCIAL STATEMENT SCHEDULES

Exhibits, financial statement schedules

1	Financial statements The Consolidated Financial Statements, the Notes thereto and the report of the Independent Registered Public Accounting Firm thereon listed in Item 8 are set forth commencing on page 176.
2	Financial statement schedules
3	Exhibits
3.1	Restated Certificate of Incorporation of JPMorgan Chase & Co., effective April 5, 2006 (incorporated by reference to Exhibit 3.1 to the Current Report on Form 8-K of JPMorgan Chase & Co. (File No. 1-5805) filed April 7, 2006).
3.2	Amendment to the Restated Certificate of Incorporation of JPMorgan Chase & Co., effective June 7, 2013 (incorporated by reference to Appendix F to the Proxy Statement on Schedule 14A of JPMorgan Chase & Co. (File No. 1-5805) filed April 10, 2013).
3.3	Certificate of Designations for Fixed-to-Floating Rate Non-Cumulative Preferred Stock, Series I (incorporated by reference to Exhibit 3.1 to the Current Report on Form 8-K of JPMorgan Chase & Co. (File No. 1-5805) filed April 24, 2008).
3.4	Certificate of Designations for 5.50% Non-Cumulative Preferred Stock, Series O (incorporated by reference to Exhibit 3.1 to the Current Report on Form 8-K of JPMorgan Chase & Co. (File No. 1-5805) filed August 27, 2012).
3.5	Certificate of Designations for 5.45% Non-Cumulative Preferred Stock, Series P (incorporated by reference to Exhibit 3.1 to the Current Report on Form 8-K of JPMorgan Chase & Co. (File No. 1-5805) filed February 5, 2013).
3.6	Certificate of Designations for Fixed-to-Floating Rate Non-Cumulative Preferred Stock, Series Q (incorporated by reference to Exhibit 3.1 to the Current Report on Form 8-K of JPMorgan Chase & Co. (File No. 1-5805) filed April 23, 2013).
3.7	Certificate of Designations for Fixed-to-Floating Rate Non-Cumulative Preferred Stock, Series R (incorporated by reference to Exhibit 3.1 to the Current Report on Form 8-K of JPMorgan Chase & Co. (File No. 1-5805) filed July 29, 2013).
3.8	Certificate of Designations for Fixed-to-Floating Rate Non-Cumulative Preferred Stock, Series S (incorporated by reference to Exhibit 3.1 to the Current Report on Form 8-K of JPMorgan Chase & Co. (File No. 1-5805) filed January 22, 2014).
3.9	Certificate of Designations for 6.70% Non-Cumulative Preferred Stock, Series T (incorporated by reference to Exhibit 3.1 to the Current Report on Form 8-K of JPMorgan Chase & Co. (File No. 1-5805) filed January 30, 2014).

3.10	Certificate of Designations for Fixed-to-Floating Rate Non-Cumulative Preferred Stock, Series U (incorporated by reference to Exhibit 3.1 to the Current Report on Form 8-K of JPMorgan Chase & Co. (File No. 1-5805) filed on March 10, 2014).
3.11	Certificate of Designations for Fixed-to-Floating Rate Non-Cumulative Preferred Stock, Series V (incorporated by reference to Exhibit 3.1 to the Current Report on Form 8-K of JPMorgan Chase & Co. (File No. 1-5805) filed on June 9, 2014).
3.12	Certificate of Designations for 6.30% Non-Cumulative Preferred Stock, Series W (incorporated by reference to Exhibit 3.1 to the Current Report on Form 8-K of JPMorgan Chase & Co. (File No. 1-5805) filed on June 23, 2014).
3.13	Certificate of Designations for Fixed-to-Floating Rate Non-Cumulative Preferred Stock, Series X (incorporated by reference to Exhibit 3.1 to the Current Report on Form 8-K of JPMorgan Chase & Co. (File No. 1-5805) filed on September 23, 2014).
3.14	Certificate of Designations for 6.125% Non-Cumulative Preferred Stock, Series Y (incorporated by reference to Exhibit 3.1 to the Current Report on Form 8-K of JPMorgan Chase & Co. (File No. 1-5805) filed February 17, 2015).
3.15	Certificate of Designations for Fixed-to-Floating Rate Non-Cumulative Preferred Stock, Series Z (incorporated by reference to Exhibit 3.1 to the Current Report on Form 8-K of JPMorgan Chase & Co. (File No. 1-5805) filed April 21, 2015).
3.16	Certificate of Designations for 6.10% Non-Cumulative Preferred Stock, Series AA (incorporated by reference to Exhibit 3.1 to the Current Report on Form 8-K of JPMorgan Chase & Co. (File No. 1-5805) filed June 4, 2015).
3.17	Certificate of Designations for 6.15% Non-Cumulative Preferred Stock, Series BB (incorporated by reference to Exhibit 3.1 to the Current Report on Form 8-K of JPMorgan Chase & Co. (File No. 1-5805) filed July 29, 2015).

3.18	By-laws of JPMorgan Chase & Co., effective January 19, 2016 (incorporated by reference to Exhibit 3.1 to the Current Report on Form 8-K of JPMorgan Chase & Co. (File No. 1-5805) filed January 21, 2016).
4.1	Indenture, dated as of October 21, 2010, between JPMorgan Chase & Co. and Deutsche Bank Trust Company Americas, as Trustee (incorporated by reference to Exhibit 4.1 to the Current Report on Form 8-K of JPMorgan Chase & Co. (File No.1-5805) filed October 21, 2010).
4.2	Subordinated Indenture, dated as of March 14, 2014, between JPMorgan Chase & Co. and U.S. Bank Trust National Association, as Trustee (incorporated by reference to Exhibit 4.1 to the Current Report on Form 8-K of JPMorgan Chase & Co. (File No.1-5805) filed March 14, 2014).
4.3	Indenture, dated as of May 25, 2001, between JPMorgan Chase & Co. and Bankers Trust Company (succeeded by Deutsche Bank Trust Company Americas), as Trustee (incorporated by reference to Exhibit 4(a)(1) to the Registration Statement on Form S-3 of JPMorgan Chase & Co. (File No. 333-52826) filed June 13, 2001).
4.4	Form of Deposit Agreement (incorporated by reference to Exhibit 4.3 to the Registration Statement on Form S-3 of JPMorgan Chase & Co. (File No. 333-191692) filed October 11, 2013).
4.5	Form of Warrant to purchase common stock (incorporated by reference to Exhibit 4.2 to the Form 8-A of JPMorgan Chase & Co. (File No. 1-5805) filed December 11, 2009).

Other instruments defining the rights of holders of long-term debt securities of JPMorgan Chase & Co. and its subsidiaries are omitted pursuant to Section (b)(4)(iii)(A) of Item 601 of Regulation S-K. JPMorgan Chase & Co. agrees to furnish copies of these instruments to the SEC upon request.

10.1	Deferred Compensation Plan for Non-Employee Directors of JPMorgan Chase & Co., as amended and restated July 2001 and as of December 31, 2004 (incorporated by reference to Exhibit 10.1 to the Annual Report on Form 10-K of JPMorgan Chase & Co. (File No. 1-5805) for the year ended December 31, 2007).[a]
10.2	2005 Deferred Compensation Plan for Non-Employee Directors of JPMorgan Chase & Co., effective as of January 1, 2005 (incorporated by reference to Exhibit 10.2 to the Annual Report on Form 10-K of JPMorgan Chase & Co. (File No. 1-5805) for the year ended December 31, 2007).[a]
10.3	2005 Deferred Compensation Program of JPMorgan Chase & Co., restated effective as of December 31, 2008 (incorporated by reference to Exhibit 10.4 to the Annual Report on Form 10-K of JPMorgan Chase & Co. (File No. 1-5805) for the year ended December 31, 2008).[a]
10.4	JPMorgan Chase & Co. Long-Term Incentive Plan as amended and restated effective May 19, 2015 (incorporated by reference to Appendix C of the Schedule 14A of JPMorgan Chase & Co. (File No. 1-5805) filed April 8, 2015).[a]
10.5	Key Executive Performance Plan of JPMorgan Chase & Co., as amended and restated effective January 1, 2014 (incorporated by reference to Appendix G of the Schedule 14A of JPMorgan Chase & Co. (File No. 1-5805) filed April 10, 2013).[a]

10.6	Excess Retirement Plan of JPMorgan Chase & Co., restated and amended as of December 31, 2008, as amended (incorporated by reference to Exhibit 10.7 to the Annual Report on Form 10-K of JPMorgan Chase & Co. (File No. 1-5805) for the year ended December 31, 2009).[a]
10.7	1995 Stock Incentive Plan of J.P. Morgan & Co. Incorporated and Affiliated Companies, as amended, dated December 11, 1996 (incorporated by reference to Exhibit 10.8 to the Annual Report on Form 10-K of JPMorgan Chase & Co. (File No. 1-5805) for the year ended December 31, 2008).[a]
10.8	Executive Retirement Plan of JPMorgan Chase & Co., as amended and restated December 31, 2008 (incorporated by reference to Exhibit 10.9 to the Annual Report on Form 10-K of JPMorgan Chase & Co. (File No. 1-5805) for the year ended December 31, 2008).[a]
10.9	Bank One Corporation Stock Performance Plan, as amended and restated effective February 20, 2001 (incorporated by reference to Exhibit 10.12 to the Annual Report on Form 10-K of JPMorgan Chase & Co. (File No. 1-5805) for the year ended December 31, 2008).[a]
10.10	Bank One Corporation Supplemental Savings and Investment Plan, as amended and restated effective December 31, 2008 (incorporated by reference to Exhibit 10.13 to the Annual Report on Form 10-K of JPMorgan Chase & Co. (File No. 1-5805) for the year ended December 31, 2008).[a]
10.11	Banc One Corporation Revised and Restated 1995 Stock Incentive Plan, effective April 17, 1995 (incorporated by reference to Exhibit 10.15 to the Annual Report on Form 10-K of JPMorgan Chase & Co. (File No. 1-5805) for the year ended December 31, 2008).[a]

Part IV

10.12	Form of JPMorgan Chase & Co. Long-Term Incentive Plan Award Agreement of January 22, 2008 stock appreciation rights (incorporated by reference to Exhibit 10.25 to the Annual Report on Form 10-K of JPMorgan Chase & Co. (File No. 1-5805) for the year ended December 31, 2007).(a)
10.13	Form of JPMorgan Chase & Co. Long-Term Incentive Plan Award Agreement of January 22, 2008 stock appreciation rights for James Dimon (incorporated by reference to Exhibit 10.27 to the Annual Report on Form 10-K of JPMorgan Chase & Co. (File No. 1-5805) for the year ended December 31, 2007).(a)
10.14	Form of JPMorgan Chase & Co. Long-Term Incentive Plan Terms and Conditions for stock appreciation rights, dated as of January 20, 2009 (incorporated by reference to Exhibit 10.20 to the Annual Report on Form 10-K of JPMorgan Chase & Co. (File No. 1-5805) for the year ended December 31, 2008).(a)
10.15	Form of JPMorgan Chase & Co. Long-Term Incentive Plan Terms and Conditions for Operating Committee member stock appreciation rights, dated as of January 20, 2009 (incorporated by reference to Exhibit 10.21 to the Annual Report on Form 10-K of JPMorgan Chase & Co. (File No. 1-5805) for the year ended December 31, 2008).(a)
10.16	Form of JPMorgan Chase & Co. Long-Term Incentive Plan Terms and Conditions for Operating Committee member stock appreciation rights, dated as of February 3, 2010 (incorporated by reference to Exhibit 10.23 to the Annual Report on Form 10-K of JPMorgan Chase & Co. (File No. 1-5805) for the year ended December 31, 2009).(a)
10.17	Forms of JPMorgan Chase & Co. Long-Term Incentive Plan Terms and Conditions for stock appreciation rights and restricted stock units, dated as of January 18, 2012 (incorporated by reference to Exhibit 10.25 to the Annual Report on Form 10-K of JPMorgan Chase & Co. (File No. 1-5805) for the year ended December 31, 2011).(a)
10.18	Forms of JPMorgan Chase & Co. Long-Term Incentive Plan Terms and Conditions for stock appreciation rights and restricted stock units for Operating Committee members, dated as of January 17, 2013 (incorporated by reference to Exhibit 10.23 to the Annual Report on Form 10-K of JPMorgan Chase & Co. (File No. 1-5805) for the year ended December 31, 2012).(a)
10.19	Form of JPMorgan Chase & Co. Long-Term Incentive Plan Terms and Conditions for restricted stock units for Operating Committee members, dated as of January 22, 2014 (incorporated by reference to Exhibit 10.1 to the Quarterly Report on Form 10-Q of JPMorgan Chase & Co. (File No. 1-5805) for the quarter ended March 31, 2014).(a)
10.20	Forms of JPMorgan Chase & Co. Long-Term Incentive Plan Terms & Conditions for restricted stock units for Operating Committee members (U.S., E.U. and U.K.), dated as of January 20, 2015 (incorporated by reference to Exhibit 10.1 to the Quarterly Report on Form 10-Q of JPMorgan Chase & Co. (File No. 1-5805) for the quarter ended March 31, 2015).(a)
10.21	Form of JPMorgan Chase & Co. Long-Term Incentive Plan Terms and Conditions for restricted stock units for Operating Committee members, dated as of January 19, 2016.(a)(b)
10.22	

	Form of JPMorgan Chase & Co. Long-Term Incentive Plan Terms and Conditions for performance share units for Operating Committee members, dated as of January 19, 2016.(a)(b)
10.23	Form of JPMorgan Chase & Co. Terms and Conditions of Fixed Allowance (UK) (incorporated by reference to Exhibit 10.1 to the Quarterly Report on Form 10-Q of JPMorgan Chase & Co. (File No. 1-5805) for the quarter ended June 30, 2014).(a)
10.24	Form of JPMorgan Chase & Co. Performance-Based Incentive Compensation Plan, effective as of January 1, 2006, as amended (incorporated by reference to Exhibit 10.27 to the Annual Report on Form 10-K of JPMorgan Chase & Co. (File No. 1-5805) for the year ended December 31, 2009).(a)
10.25	Plea Agreement dated May 20, 2015 between JPMorgan Chase & Co. and the U.S. Department of Justice (incorporated by reference to Exhibit 99.3 to the Current Report on Form 8-K of JPMorgan Chase & Co. (File No. 1-5805) filed May 20, 2015).
12.1	Computation of ratio of earnings to fixed charges.(b)
12.2	Computation of ratio of earnings to fixed charges and preferred stock dividend requirements.(b)
21	List of subsidiaries of JPMorgan Chase & Co.(b)
22.1	Annual Report on Form 11-K of The JPMorgan Chase 401(k) Savings Plan for the year ended December 31, 2015 (to be filed pursuant to Rule 15d-21 under the Securities Exchange Act of 1934).
23	Consent of independent registered public accounting firm.(b)
31.1	Certification.(b)
31.2	Certification.(b)
32	Certification pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.(c)

101.INS	XBRL Instance Document.(b)(d)
101.SCH	XBRL Taxonomy Extension Schema Document.(b)
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document.(b)
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document.(b)
101.LAB	XBRL Taxonomy Extension Label Linkbase Document.(b)
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document.(b)

(a) This exhibit is a management contract or compensatory plan or arrangement.
(b) Filed herewith.
(c) Furnished herewith. This exhibit shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, or otherwise subject to the liability of that Section. Such exhibit shall not be deemed incorporated into any filing under the Securities Act of 1933 or the Securities Exchange Act of 1934.
(d) Pursuant to Rule 405 of Regulation S-T, includes the following financial information included in the Firm's Annual Report on Form 10-K for the year ended December 31, 2015, formatted in XBRL (eXtensible Business Reporting Language) interactive data files: (i) the Consolidated statements of income for the years ended December 31, 2015, 2014 and 2013, (ii) the Consolidated statements of comprehensive income for the years ended December 31, 2015, 2014 and 2013, (iii) the Consolidated balance sheets as of December 31, 2015 and 2014, (iv) the Consolidated statements of changes in stockholders' equity for the years ended December 31, 2015, 2014 and 2013, (v) the Consolidated statements of cash flows for the years ended December 31, 2015, 2014 and 2013, and (vi) the Notes to Consolidated Financial Statements.

pages 28–64 not used

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Financial:

Financial

FIVE-YEAR SUMMARY OF CONSOLIDATED FINANCIAL HIGHLIGHTS
(unaudited)

As of or for the year ended December 31, (in millions, except per share, ratio, headcount data and where otherwise noted)	2015	2014	2013	2012	2011
Selected income statement data					
Total net revenue	$93,543	$95,112	$97,367	$97,680	$97,843
Total noninterest expense	59,014	61,274	70,467	64,729	62,911
Pre-provision profit	34,529	33,838	26,900	32,951	34,932
Provision for credit losses	3,827	3,139	225	3,385	7,574
Income before income tax expense	30,702	30,699	26,675	29,566	27,358
Income tax expense	6,260	8,954	8,789	8,307	8,402
Net income	$24,442	$21,745	$17,886	$21,259	$18,956
Earnings per share data					
Net income: Basic	$6.05	$5.33	$4.38	$5.21	$4.50
Diluted	6.00	5.29	4.34	5.19	4.48
Average shares: Basic	3,700.4	3,763.5	3,782.4	3,809.4	3,900.4
Diluted	3,732.8	3,797.5	3,814.9	3,822.2	3,920.3
Market and per common share data					
Market capitalization	$241,899	$232,472	$219,657	$167,260	$125,442
Common shares at period-end	3,663.5	3,714.8	3,756.1	3,804.0	3,772.7
Share price[(a)]					
High	$70.61	$63.49	$58.55	$46.49	$48.36
Low	50.07	52.97	44.20	30.83	27.85
Close	66.03	62.58	58.48	43.97	33.25
Book value per share	60.46	56.98	53.17	51.19	46.52
Tangible book value per share (“TBVPS”)[(b)]	48.13	44.60	40.72	38.68	33.62
Cash dividends declared per share	1.72	1.58	1.44	1.20	1.00
Selected ratios and metrics					
Return on common equity (“ROE”)	11 %	10 %	9 %	11 %	11 %
Return on tangible common equity (“ROTCE”)[(b)]	13	13	11	15	15
Return on assets (“ROA”)	0.99	0.89	0.75	0.94	0.86
Overhead ratio	63	64	72	66	64
Loans-to-deposits ratio	65	56	57	61	64
High quality liquid assets (“HQLA“) (in billions)[(c)]	$496	$600	$522	341	NA
Common equity tier 1 (“CET1”) capital ratio[(d)]	11.8 %	10.2 %	10.7 %	11.0 %	10.0 %
Tier 1 capital ratio[(d)]	13.5	11.6	11.9	12.6	12.3
Total capital ratio[(d)]	15.1	13.1	14.3	15.2	15.3
Tier 1 leverage ratio[(d)]	8.5	7.6	7.1	7.1	6.8
Selected balance sheet data (period-end)					
Trading assets	$343,839	$398,988	$374,664	$450,028	$443,963
Securities	290,827	348,004	354,003	371,152	364,793
Loans	837,299	757,336	738,418	733,796	723,720
Core Loans	732,093	628,785	583,751	555,351	518,095
Total assets	2,351,698	2,572,274	2,414,879	2,358,323	2,264,976
Deposits	1,279,715	1,363,427	1,287,765	1,193,593	1,127,806
Long-term debt[(e)]	288,651	276,379	267,446	248,521	255,962
Common stockholders’ equity	221,505	211,664	199,699	194,727	175,514
Total stockholders’ equity	247,573	231,727	210,857	203,785	183,314

Headcount	234,598	241,359	251,196	258,753	259,940
Credit quality metrics					
Allowance for credit losses	$14,341	$14,807	$16,969	$22,604	$28,282
Allowance for loan losses to total retained loans	1.63 %	1.90 %	2.25 %	3.02 %	3.84 %
Allowance for loan losses to retained loans excluding purchased credit-impaired loans[(f)]	1.37	1.55	1.80	2.43	3.35
Nonperforming assets	$7,034	$7,967	$9,706	$11,906	$11,315
Net charge-offs	4,086	4,759	5,802	9,063	12,237
Net charge-off rate	0.52 %	0.65 %	0.81 %	1.26 %	1.78 %

Note: Effective October 1, 2015, and January 1, 2015, JPMorgan Chase & Co. adopted new accounting guidance, retrospectively, related to (1) the presentation of debt issuance costs, and (2) investments in affordable housing projects that qualify for the low-income housing tax credit, respectively. For additional information, see Explanation and Reconciliation of the Firm's Use of Non-GAAP Financial Measures on pages 80–82 , Accounting and Reporting Developments on page 170 , and Note 1.

(a) Share prices shown for JPMorgan Chase's common stock are from the New York Stock Exchange.

(b) TBVPS and ROTCE are non-GAAP financial measures. For further discussion of these measures, see Explanation and Reconciliation of the Firm's Use of Non-GAAP Financial Measures on pages 80–82.

(c) HQLA represents the amount of assets that qualify for inclusion in the liquidity coverage ratio under the final U.S. rule ("U.S. LCR") for December 31, 2015 and the Firm's estimated amount for December 31, 2014 prior to the effective date of the final rule, and under the Basel III liquidity coverage ratio ("Basel III LCR") for prior periods. The Firm did not begin estimating HQLA until December 31, 2012. For additional information, see HQLA on page 160.

(d) Basel III Transitional rules became effective on January 1, 2014; prior period data is based on Basel I rules. As of December 31, 2014 the ratios presented are calculated under the Basel III Advanced Transitional Approach. CET1 capital under Basel III replaced Tier 1 common capital under Basel I. Prior to Basel III becoming effective on January 1, 2014, Tier 1 common capital under Basel I was a non-GAAP financial measure. See Capital Management on pages 149–158 for additional information on Basel III and non-GAAP financial measures of regulatory capital.

(e) Included unsecured long-term debt of $211.8 billion, $207.0 billion, $198.9 billion, $200.1 billion and $230.5 billion respectively, as of December 31, of each year presented.

(f) Excluded the impact of residential real estate purchased credit-impaired ("PCI") loans, a non-GAAP financial measure. For further discussion of these measures, see Explanation and Reconciliation of the Firm's Use of Non-GAAP Financial Measures on pages 80–82. For further discussion, see Allowance for credit losses on pages 130–132.

FIVE-YEAR STOCK PERFORMANCE

The following table and graph compare the five-year cumulative total return for JPMorgan Chase & Co. ("JPMorgan Chase" or the "Firm") common stock with the cumulative return of the S&P 500 Index, the KBW Bank Index and the S&P Financial Index. The S&P 500 Index is a commonly referenced United States of America ("U.S.") equity benchmark consisting of leading companies from different economic sectors. The KBW Bank Index seeks to reflect the performance of banks and thrifts that are publicly traded in the U.S. and is composed of 24 leading national money center and regional banks and thrifts. The S&P Financial Index is an index of 87 financial companies, all of which are components of the S&P 500. The Firm is a component of all three industry indices.

The following table and graph assume simultaneous investments of $100 on December 31, 2010, in JPMorgan Chase common stock and in each of the above indices. The comparison assumes that all dividends are reinvested.

December 31, (in dollars)	2010	2011	2012	2013	2014	2015
JPMorgan Chase	$100.00	$80.03	$108.98	$148.98	$163.71	$177.40
KBW Bank Index	100.00	76.82	102.19	140.77	153.96	154.71
S&P Financial Index	100.00	82.94	106.78	144.79	166.76	164.15
S&P 500 Index	100.00	102.11	118.44	156.78	178.22	180.67

December 31,
(in dollars)

Management's discussion and analysis

This section of JPMorgan Chase's Annual Report for the year ended December 31, 2015 ("Annual Report"), provides Management's discussion and analysis of the financial condition and results of operations ("MD&A") of JPMorgan Chase. See the Glossary of Terms on pages 311–315 for definitions of terms used throughout this Annual Report. The MD&A included in this Annual Report contains statements that are forward-looking within the meaning of the Private Securities Litigation Reform Act of 1995. Such statements are based on the current beliefs and expectations of JPMorgan Chase's management and are subject to significant risks and uncertainties. These risks and uncertainties could cause the Firm's actual results to differ materially from those set forth in such forward-looking statements. Certain of such risks and uncertainties are described herein (see Forward-looking Statements on page 173) and in JPMorgan Chase's Annual Report on Form 10-K for the year ended December 31, 2015 ("2015 Form 10-K"), in Part I, Item 1A: Risk factors; reference is hereby made to both.

INTRODUCTION

JPMorgan Chase & Co., a financial holding company incorporated under Delaware law in 1968, is a leading global financial services firm and one of the largest banking institutions in the U.S., with operations worldwide; the Firm had $2.4 trillion in assets and $247.6 billion in stockholders' equity as of December 31, 2015. The Firm is a leader in investment banking, financial services for consumers and small businesses, commercial banking, financial transaction processing and asset management. Under the J.P. Morgan and Chase brands, the Firm serves millions of customers in the U.S. and many of the world's most prominent corporate, institutional and government clients.
JPMorgan Chase's principal bank subsidiaries are JPMorgan Chase Bank, National Association ("JPMorgan Chase Bank, N.A."), a national banking association with U.S. branches in 23 states, and Chase Bank USA, National Association ("Chase Bank USA, N.A."), a national banking association that is the Firm's credit card-issuing bank. JPMorgan Chase's principal nonbank subsidiary is J.P. Morgan Securities LLC ("JPMorgan Securities"), the Firm's U.S. investment banking firm. The bank and nonbank subsidiaries of JPMorgan Chase operate nationally as well as through overseas branches and subsidiaries, representative offices and subsidiary foreign banks. One of the Firm's principal operating subsidiaries in the United Kingdom ("U.K.") is J.P. Morgan Securities plc, a subsidiary of JPMorgan Chase Bank, N.A.

For management reporting purposes, the Firm's activities are organized into four major reportable business segments, as well as a Corporate segment. The Firm's consumer business is the Consumer & Community Banking ("CCB") segment. The Firm's wholesale business segments are Corporate & Investment Bank ("CIB"), Commercial Banking ("CB"), and Asset Management ("AM"). For a description of the Firm's business segments, and the products and services they provide to their respective client bases, refer to Business Segment Results on pages 83–106, and Note 33.

EXECUTIVE OVERVIEW

This executive overview of the MD&A highlights selected information and may not contain all of the information that is important to readers of this Annual Report. For a complete description of the trends and uncertainties, as well as the risks and critical accounting estimates affecting the Firm and its various lines of business, this Annual Report should be read in its entirety.

Financial performance of JPMorgan Chase

Year ended December 31, (in millions, except per share data and ratios)	2015	2014	Change
Selected income statement data			
Total net revenue	$93,543	$95,112	(2)%
Total noninterest expense	59,014	61,274	(4)
Pre-provision profit	34,529	33,838	2
Provision for credit losses	3,827	3,139	22
Net income	24,442	21,745	12
Diluted earnings per share	6.00	5.29	13
Return on common equity	11%	10%	
Capital ratios[(a)]			
CET1	11.8	10.2	
Tier 1 capital	13.5	11.6	

(a) Ratios presented are calculated under the transitional Basel III rules and represent the Collins Floor. See Capital Management on pages 149–158 for additional information on Basel III.

Summary of 2015 Results

JPMorgan Chase reported record full-year 2015 net income of $24.4 billion, and record earnings per share of $6.00, on net revenue of $93.5 billion. Net income increased by $2.7 billion compared with net income of $21.7 billion in 2014. ROE for the year was 11%, up from 10% in the prior year.

The increase in net income in 2015 was driven by lower taxes and lower noninterest expense, partially offset by lower net revenue and a higher provision for credit losses. The decline in net revenue was predominantly driven by lower Corporate private equity gains, lower CIB revenue reflecting the impact of business simplification, and lower CCB Mortgage Banking revenue. These decreases were partially offset by a benefit from a legal settlement in Corporate and higher operating lease income, predominantly in CCB.

The decrease in noninterest expense was driven by lower CIB expense, reflecting the impact of business simplification, and lower CCB expense as a result of efficiencies, predominantly reflecting declines in headcount-related expense and lower professional fees, partially offset by investments in the business. As a result of these changes, the Firm’s overhead ratio in 2015 was lower compared with the prior year.

The provision for credit losses increased from the prior year as a result of an increase in the wholesale provision, reflecting the impact of downgrades, including in the Oil & Gas portfolio. The consumer provision declined, reflecting lower net charge-offs due to continued discipline in credit underwriting, as well as improvement in the economy driven by increasing home prices and lower unemployment levels. This was partially offset by a lower reduction in the allowance for loan losses.

Total firmwide allowance for credit losses in 2015 was $14.3 billion, resulting in a loan loss coverage ratio of 1.37%, excluding the PCI portfolio, compared with 1.55% in the prior year. The Firm’s allowance for loan losses to retained nonaccrual loans, excluding the PCI portfolio and credit card, was 117% compared with 106% in 2014. Firmwide, net charge-offs were $4.1 billion for the year, down $673 million from 2014. Nonperforming assets at year-end were $7.0 billion, down $933 million.

The Firm’s results reflected solid underlying performance across its four major reportable business segments, with continued strong lending and consumer deposit growth. Firmwide average core loans increased by 12% compared with the prior year. Within CCB, Consumer & Business Banking average deposits increased 9% over the prior year. The Firm had nearly 23 million active mobile customers at year end, an increase of 20% over the prior year. Credit card sales volume (excluding Commercial Card) was up 7% for the year and merchant processing volume was up 12%. The CIB maintained its #1 ranking in Global Investment Banking Fees according to Dealogic. CB had record average loans, with an 11% increase compared with the prior year. CB also had record gross investment banking revenue of $2.2 billion, up 10% from the prior year. AM had positive net long-term client inflows and continued to deliver strong investment performance with 80% of mutual fund assets under management ("AUM") ranked in the 1st or 2nd quartiles over the past five years. AM also increased average loan balances by 8% in 2015.

In 2015, the Firm continued to adapt its strategy and financial architecture toward meeting regulatory and capital requirements and the changing banking landscape, while serving its clients and customers, investing in its businesses, and delivering strong returns to its shareholders. Importantly, the Firm exceeded all of its 2015 financial targets including those related to balance sheet optimization and managing its capital, its GSIB surcharge and expense. On capital, the Firm exceeded its capital target of reaching Basel III Fully Phased-In Advanced and Standardized CET1 ratios of approximately 11%, ending the year with estimated Basel III Advanced Fully Phased-in CET1 capital and ratio of $173.2 billion and 11.6%, respectively. The Firm also exceeded its target of reducing its GSIB capital surcharge, ending the year at an estimated 3.5% GSIB surcharge, achieved through a combination of reducing wholesale non-operating deposits, level 3 assets and derivative notionals.

The Firm's fully phased-in supplementary leverage ratio ("SLR") was 6.5% and JPMorgan Chase Bank, N.A.'s fully phased-in SLR was 6.6%. The Firm was also compliant with the fully phased-in U.S. liquidity coverage ratio ("LCR") and had $496 billion of HQLA as of year-end 2015.

The Firm's tangible book value per share was $48.13, an increase of 8% from the prior year. Total stockholders' equity was $247.6 billion at December 31, 2015.

Tangible book value per share and each of these Basel III Advanced Fully Phased-In measures are non-GAAP financial measures; they are used by management, bank regulators, investors and analysts to assess and monitor the Firm's capital position and liquidity. For further discussion of Basel III Advanced Fully Phased-in measures and the SLR under the U.S. final SLR rule, see Capital Management on pages 149–158, and for further discussion of LCR and HQLA, see Liquidity Risk Management on pages 159–164.

The Firm provided credit to and raised capital of $2.0 trillion for its clients during 2015. This included $705 billion of credit to corporations, $233 billion of credit to consumers, and $22 billion to U.S. small businesses. During 2015, the Firm also raised $1.0 trillion of capital for clients. Additionally, $68 billion of credit was provided to, and capital was raised for, nonprofit and government entities, including states, municipalities, hospitals and universities.

The Firm has substantially completed its business simplification agenda, exiting businesses, products or clients that were non-core, not at scale or not returning the appropriate level of return in order to focus on core activities for its core clients and reduce risk to the Firm. While the business simplification initiative impacted revenue growth in 2015, it did not have a meaningful impact on the Firm's profitability. The Firm continues to focus on streamlining, simplifying and centralizing operational functions and processes in order to attain more consistencies and efficiencies across the Firm. To that end, the Firm continues to make progress on simplifying its legal entity structure, streamlining its Global Technology function, rationalizing its use of vendors, and optimizing its real estate location strategy.

Business outlook
These current expectations are forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Such forward-looking statements are based on the current beliefs and expectations of JPMorgan Chase's management and are subject to significant risks and uncertainties. These risks and uncertainties could cause the Firm's actual results to differ materially from those set forth in such forward-looking statements. See Forward-Looking Statements on page 173 and the Risk Factors section on pages 8–18.
Business Outlook
JPMorgan Chase's outlook for the full-year 2016 should be viewed against the backdrop of the global and U.S. economies, financial markets activity, the geopolitical environment, the competitive environment, client activity levels, and regulatory and legislative developments in the U.S. and other countries where the Firm does business. Each of these inter-related factors will affect the performance of the Firm and its lines of business. The Firm expects it will continue to make appropriate adjustments to its businesses and operations in response to ongoing developments in the legal and regulatory, as well as business and economic, environment in which it operates.
In the first quarter of 2016, management expects net interest income and net interest margin to be relatively flat when compared with the fourth quarter of 2015. During 2016, if there are no changes in interest rates, management expects net interest income could be approximately $2 billion higher than in 2015, reflecting the Federal Reserve's rate increase in December 2015 and loan growth.
Management expects core loan growth of approximately 10%-15% in 2016 as well as continued growth in retail deposits which are anticipated to lead to the Firm's balance sheet growing to approximately $2.45 trillion in 2016. Management also expects managed noninterest revenue of approximately $50 billion in 2016, a decrease from 2015, primarily driven by lower Card revenue reflecting renegotiated co-brand partnership agreements and lower revenue in Mortgage Banking.
The Firm continues to experience charge-offs at levels lower than its through-the-cycle expectations reflecting favorable credit trends across the consumer and wholesale portfolios, excluding Oil & Gas. Management expects total net charge-offs of up to approximately $4.75 billion in 2016. Based on the changes in market expectations for oil prices since year-end 2015, management believes reserves during the first quarter of 2016 could increase by approximately $500 million for Oil & Gas, and by approximately $100 million for Metals & Mining.

The Firm continues to take a disciplined approach to managing its expenses, while investing in growth and innovation. The Firm intends to leverage its scale and improve its operating efficiencies, in order to reinvest its expense savings in additional technology and marketing investments and fund other growth initiatives. As a result, Firmwide adjusted expense in 2016 is expected to be approximately $56 billion (excluding Firmwide legal expense).
Additionally, the Firm will continue to adapt its capital assessment framework to review businesses and client relationships against multiple binding constraints, including GSIB and other applicable capital requirements, imposing internal limits on business activities to align or optimize the Firm's balance sheet and risk-weighted assets ("RWA") with regulatory requirements in order to ensure that business activities generate appropriate levels of shareholder value.
During 2016, the Firm expects the CET1 capital ratio calculated under the Basel III Standardized Approach to become its binding constraint. As a result of the anticipated growth in the balance sheet, management anticipates that the Firm will have, over time, $1.55 trillion in Standardized risk weighted assets, and is expecting that, over the next several years, its Basel III CET1 capital ratio will be between 11% and 12.5%. In the longer term, management expects to maintain a minimum Basel III CET1 ratio of 11%. It is the Firm's current intention that the Firm's capital ratios continue to exceed regulatory minimums as they are fully implemented in 2019 and thereafter. Likewise, the Firm will be evolving its funding framework to ensure it meets the current and proposed more stringent regulatory liquidity rules, including those relating to the availability of adequate Total Loss Absorbing Capacity ("TLAC").
In Mortgage Banking within CCB, management expects noninterest revenue to decline by approximately $700 million in 2016 as servicing balances continue to decline from year-end 2015 levels. The Card net charge-off rate is expected to be approximately 2.5% in 2016.
In CIB, management expects Investment Banking revenue in the first quarter of 2016 to be approximately 25% lower than the prior year first quarter, driven by current market conditions in the underwriting businesses. In addition,

Markets revenue to date in the first quarter of 2016 is down approximately 20%, when compared to a particularly strong period in the prior year and reflecting the current challenging market conditions. Prior year Markets revenue was positively impacted by macroeconomic events, including the Swiss franc decoupling from the Euro. Actual Markets revenue results for the first quarter will continue to be affected by market conditions, which can be volatile. In Securities Services, management expects revenue of approximately $875 million in the first quarter of 2016.

Management's discussion and analysis

CONSOLIDATED RESULTS OF OPERATIONS

The following section of the MD&A provides a comparative discussion of JPMorgan Chase's Consolidated Results of Operations on a reported basis for the three-year period ended December 31, 2015. Factors that relate primarily to a single business segment are discussed in more detail within that business segment. For a discussion of the Critical Accounting Estimates Used by the Firm that affect the Consolidated Results of Operations, see pages 165–169.

Revenue

Year ended December 31, (in millions)	2015	2014	2013
Investment banking fees	$6,751	$6,542	$6,354
Principal transactions	10,408	10,531	10,141
Lending- and deposit-related fees	5,694	5,801	5,945
Asset management, administration and commissions	15,509	15,931	15,106
Securities gains	202	77	667
Mortgage fees and related income	2,513	3,563	5,205
Card income	5,924	6,020	6,022
Other income[(a)]	3,032	3,013	4,608
Noninterest revenue	50,033	51,478	54,048
Net interest income	43,510	43,634	43,319
Total net revenue	$93,543	$95,112	$97,367

(a) Included operating lease income of $2.1 billion, $1.7 billion and $1.5 billion for the years ended December 31, 2015, 2014 and 2013, respectively.

2015 compared with 2014

Total net revenue for 2015 was down by 2% compared with the prior year, predominantly driven by lower Corporate private equity gains, lower CIB revenue reflecting the impact of business simplification initiatives, and lower CCB Mortgage Banking revenue. These decreases were partially offset by a benefit from a legal settlement in Corporate, and higher operating lease income, predominantly in CCB.

Investment banking fees increased from the prior year, reflecting higher advisory fees, partially offset by lower equity and debt underwriting fees. The increase in advisory fees was driven by a greater share of fees for completed transactions as well as growth in industry-wide fee levels. The decrease in equity underwriting fees resulted from lower industry-wide issuance, and the decrease in debt underwriting fees resulted primarily from lower loan syndication and bond underwriting fees on lower industry-wide fee levels. For additional information on investment banking fees, see CIB segment results on pages 94–98 and Note 7.

Principal transactions revenue decreased from the prior year, reflecting lower private equity gains in Corporate driven by lower valuation gains and lower net gains on sales as the Firm exits this non-core business. The decrease was partially offset by higher client-driven market-making revenue, particularly in foreign exchange, interest rate and equity-related products in CIB, as well as a gain of approximately $160 million on CCB's investment in Square, Inc. upon its initial public offering. For additional information, see CIB and Corporate segment results on pages 94–98 and pages 105–106, respectively, and Note 7.

Asset management, administration and commissions revenue decreased compared with the prior year, largely as a result of lower fees in CIB and lower performance fees in AM. The decrease was partially offset by higher asset management fees as a result of net client inflows into assets under management and the impact of higher average market levels in AM and CCB. For additional information, see the segment discussions of CIB and AM on pages 94–98 and pages 102–104, respectively, and Note 7.

Mortgage fees and related income decreased compared with the prior year, reflecting lower servicing revenue largely as a result of lower average third-party loans serviced, and lower net production revenue reflecting a lower repurchase benefit. For further information on mortgage fees and related income, see the segment discussion of CCB on pages

85–93 and Notes 7 and 17.
For information on lending- and deposit-related fees, see the segment results for CCB on pages 85–93, CIB on pages 94–98, and CB on pages 99–101 and Note 7; securities gains, see the Corporate segment discussion on pages 105–106; and card income, see CCB segment results on pages 85–93.
Other income was relatively flat compared with the prior year, reflecting a $514 million benefit from a legal settlement in Corporate, higher operating lease income as a result of growth in auto operating lease assets in CCB, and the absence of losses related to the exit of non-core portfolios in Card. These increases were offset by the impact of business simplification in CIB; the absence of a benefit recognized in 2014 from a franchise tax settlement; and losses related to the accelerated amortization of cash flow hedges associated with the exit of certain non-operating deposits.
Net interest income was relatively flat compared with the prior year, as lower loan yields, lower investment securities net interest income, and lower trading asset balance and yields were offset by higher average loan balances and lower interest expense on deposits. The Firm's average interest-earning assets were $2.1 trillion in 2015, and the net interest yield on these assets, on a fully taxable-equivalent ("FTE") basis, was 2.14%, a decrease of 4 basis points from the prior year.
2014 compared with 2013
Total net revenue for 2014 was down by 2% compared with the prior year, predominantly due to lower mortgage fees and related income and lower other income. The decrease was partially offset by higher asset management, administration and commissions revenue.
Investment banking fees increased compared with the prior year, due to higher advisory and equity underwriting fees, largely offset by lower debt underwriting fees. The increase

in advisory fees was driven by the combined impact of a greater share of fees for completed transactions, and growth in industry-wide fees. The increase in equity underwriting fees was driven by higher industry-wide issuance. The decrease in debt underwriting fees was primarily related to lower bond underwriting fees compared with the prior year, and lower loan syndication fees on lower industry-wide fees.
Principal transactions revenue increased as the prior year included a $1.5 billion loss related to the implementation of the funding valuation adjustment ("FVA") framework for over-the-counter ("OTC") derivatives and structured notes. Private equity gains increased as a result of higher net gains on sales. These increases were partially offset by lower fixed income markets revenue in CIB, primarily driven by credit-related and rates products, as well as the impact of business simplification initiatives.
Lending- and deposit-related fees decreased compared
with the prior year, reflecting the impact of business simplification initiatives and lower trade finance revenue in CIB.
Asset management, administration and commissions revenue increased compared with the prior year, reflecting higher asset management fees driven by net client inflows and higher market levels in AM and CCB. The increase was offset partially by lower commissions and other fee revenue in CCB as a result of the exit of a non-core product in 2013.
Securities gains decreased compared with the prior year, reflecting lower repositioning activity related to the Firm's investment securities portfolio.
Mortgage fees and related income decreased compared with the prior year, predominantly due to lower net production revenue driven by lower volumes due to higher mortgage interest rates, and tighter margins. The decline in net production revenue was partially offset by a lower loss on the risk management of mortgage servicing rights ("MSRs").
Card income was relatively flat compared with the prior year, but included higher net interchange income due to growth in credit and debit card sales volume, offset by higher amortization of new account origination costs.
Other income decreased from the prior year, predominantly from the absence of two significant items recorded in Corporate in 2013: gains of $1.3 billion and $493 million from sales of Visa shares and One Chase Manhattan Plaza, respectively. Lower valuations of seed capital investments in AM and losses related to the exit of non-core portfolios in Card also contributed to the decrease. These items were partially offset by higher auto lease income as a result of growth in auto lease volume, and a benefit from a tax settlement.

Net interest income increased slightly from the prior year, predominantly reflecting higher yields on investment securities, the impact of lower interest expense from lower rates, and higher average loan balances. The increase was partially offset by lower yields on loans due to the run-off of higher-yielding loans and new originations of lower-yielding loans, and lower average interest-earning trading asset balances. The Firm's average interest-earning assets were $2.0 trillion, and the net interest yield on these assets, on a FTE basis, was 2.18%, a decrease of 5 basis points from the prior year.

Provision for credit losses

Year ended December 31, (in millions)	2015	2014	2013
Consumer, excluding credit card	$(81)	$419	$(1,871)
Credit card	3,122	3,079	2,179
Total consumer	3,041	3,498	308
Wholesale	786	(359)	(83)
Total provision for credit losses	$3,827	$3,139	$225

2015 compared with 2014
The provision for credit losses increased from the prior year as a result of an increase in the wholesale provision, largely reflecting the impact of downgrades in the Oil & Gas portfolio. The increase was partially offset by a decrease in the consumer provision, reflecting lower net charge-offs due to continued discipline in credit underwriting, as well as improvement in the economy driven by increasing home prices and lower unemployment levels. The increase was partially offset by a lower reduction in the allowance for loan losses. For a more detailed discussion of the credit portfolio and the allowance for credit losses, see the segment discussions of CCB on pages 85–93, CB on pages 99–101,

and the Allowance For Credit Losses on pages 130–132.

2014 compared with 2013

The provision for credit losses increased by $2.9 billion from the prior year as result of a lower benefit from reductions in the consumer allowance for loan losses, partially offset by lower net charge-offs. The consumer allowance reduction in 2014 was primarily related to the consumer, excluding credit card, portfolio and reflected the continued improvement in home prices and delinquencies in the residential real estate portfolio. The wholesale provision reflected a continued favorable credit environment.

Management's discussion and analysis

Noninterest expense

Year ended December 31, (in millions)	2015	2014	2013
Compensation expense	$29,750	$30,160	$30,810
Noncompensation expense:			
Occupancy	3,768	3,909	3,693
Technology, communications and equipment	6,193	5,804	5,425
Professional and outside services	7,002	7,705	7,641
Marketing	2,708	2,550	2,500
Other[(a)(b)]	9,593	11,146	20,398
Total noncompensation expense	29,264	31,114	39,657
Total noninterest expense	$59,014	$61,274	$70,467

(a) Included legal expense of $3.0 billion, $2.9 billion and $11.1 billion for the years ended December 31, 2015, 2014 and 2013, respectively.

(b) Included Federal Deposit Insurance Corporation ("FDIC")-related expense of $1.2 billion, $1.0 billion and $1.5 billion for the years ended December 31, 2015, 2014 and 2013, respectively.

2015 compared with 2014

Total noninterest expense decreased by 4% from the prior year, as a result of lower CIB expense, predominantly reflecting the impact of business simplification; and lower CCB expense resulting from efficiencies related to declines in headcount-related expense and lower professional fees. These decreases were partially offset by investment in the businesses, including for infrastructure and controls.

Compensation expense decreased compared with the prior year, predominantly driven by lower performance-based incentives and reduced headcount, partially offset by higher postretirement benefit costs and investment in the businesses, including for infrastructure and controls.

Noncompensation expense decreased from the prior year, reflecting benefits from business simplification in CIB; lower professional and outside services expense, reflecting lower legal services expense and a reduced number of contractors in the businesses; lower amortization of intangibles; and the absence of a goodwill impairment in Corporate. These factors were partially offset by higher depreciation expense, largely associated with higher auto operating lease assets in CCB; higher marketing expense in CCB; and higher FDIC-related assessments. Legal expense was relatively flat compared with the prior year. For a further discussion of legal expense, see Note 31.

2014 compared with 2013

Total noninterest expense decreased by $9.2 billion, or 13%, from the prior year, as a result of lower other expense (in particular, legal expense) and lower compensation expense.

Compensation expense decreased compared with the prior year, predominantly driven by lower headcount in CCB Mortgage Banking, lower performance-based compensation expense in CIB, and lower postretirement benefit costs. The decrease was partially offset by investments in the businesses, including headcount for controls.

Noncompensation expense decreased compared with the prior year, due to lower other expense, predominantly reflecting lower legal expense. Lower expense for foreclosure-related matters and production and servicing-related expense in CCB Mortgage Banking, lower FDIC-related assessments, and lower amortization due to certain fully amortized intangibles, also contributed to the decline. The decrease was offset partially by investments in the businesses, including for controls, and costs related to business simplification initiatives across the Firm.

Income tax expense

Year ended December 31, (in millions, except rate)	2015	2014	2013
Income before income tax expense	$30,702	$30,699	$26,675
Income tax expense	6,260	8,954	8,789
Effective tax rate	20.4 %	29.2 %	32.9 %

2015 compared with 2014

The effective tax rate decreased compared with the prior year, predominantly due to the recognition in 2015 of tax benefits of $2.9 billion and other changes in the mix of income and expense subject to U.S. federal, state and local income taxes, partially offset by prior-year tax adjustments. The recognition of tax benefits in 2015 was due to the resolution of various tax audits, as well as the release of U.S. deferred taxes associated with the restructuring of certain non-U.S. entities. For further information see
Note 26.

2014 compared with 2013

The decrease in the effective tax rate from the prior year was largely attributable to the effect of the lower level of nondeductible legal-related penalties, partially offset by higher 2014 pretax income in combination with changes in the mix of income and expense subject to U.S. federal, state and local income taxes, and lower tax benefits associated with tax adjustments and the settlement of tax audits.

CONSOLIDATED BALANCE SHEETS ANALYSIS

Selected Consolidated balance sheets data

December 31, (in millions)	2015	2014	Change
Assets			
Cash and due from banks	$20,490	$27,831	(26)%
Deposits with banks	340,015	484,477	(30)
Federal funds sold and securities purchased under resale agreements	212,575	215,803	(1)
Securities borrowed	98,721	110,435	(11)
Trading assets:			
Debt and equity instruments	284,162	320,013	(11)
Derivative receivables	59,677	78,975	(24)
Securities	290,827	348,004	(16)
Loans	837,299	757,336	11
Allowance for loan losses	(13,555)	(14,185)	(4)
Loans, net of allowance for loan losses	823,744	743,151	11
Accrued interest and accounts receivable	46,605	70,079	(33)
Premises and equipment	14,362	15,133	(5)
Goodwill	47,325	47,647	(1)
Mortgage servicing rights	6,608	7,436	(11)
Other intangible assets	1,015	1,192	(15)
Other assets	105,572	102,098	3
Total assets	$2,351,698	$2,572,274	(9)%
Liabilities			
Deposits	$1,279,715	$1,363,427	(6)
Federal funds purchased and securities loaned or sold under repurchase agreements	152,678	192,101	(21)
Commercial paper	15,562	66,344	(77)
Other borrowed funds	21,105	30,222	(30)
Trading liabilities:			
Debt and equity instruments	74,107	81,699	(9)
Derivative payables	52,790	71,116	(26)
Accounts payable and other liabilities	177,638	206,939	(14)
Beneficial interests issued by consolidated variable interest entities ("VIEs")	41,879	52,320	(20)
Long-term debt	288,651	276,379	4
Total liabilities	2,104,125	2,340,547	(10)
Stockholders' equity	247,573	231,727	7
Total liabilities and stockholders' equity	$2,351,698	$2,572,274	(9)%

The following is a discussion of the significant changes between December 31, 2015 and 2014.

Cash and due from banks and deposits with banks

The Firm's excess cash is placed with various central banks, predominantly Federal Reserve Banks. The net decrease in cash and due from banks and deposits with banks was primarily due to the Firm's actions to reduce wholesale non-operating deposits.

Securities borrowed

The decrease was largely driven by a lower demand for securities to cover short positions in CIB. For additional information, refer to Notes 3 and 13.
Trading assets–debt and equity instruments
The decrease was predominantly related to client-driven market-making activities in CIB, which resulted in lower levels of both debt and equity instruments. For additional information, refer to Note 3.
Trading assets and liabilities–derivative receivables and payables
The decrease in both receivables and payables was predominantly driven by declines in interest rate derivatives, commodity derivatives, foreign exchange derivatives and equity derivatives due to market movements, maturities and settlements related to client-driven market-making activities in CIB. For additional information, refer to Derivative contracts on pages 127–129, and Notes 3 and 6.
Securities
The decrease was largely due to paydowns and sales of non-U.S. residential mortgage-backed securities, non-U.S. government debt securities, and non-U.S. corporate debt securities reflecting a shift to loans. For additional information related to securities, refer to the discussion in the Corporate segment on pages 105–106, and Notes 3 and 12.
Loans and allowance for loan losses
The increase in loans was attributable to an increase in consumer loans due to higher originations and retention of prime mortgages in Mortgage Banking (“MB”) and AM, and higher originations of auto loans in CCB, as well as an increase in wholesale loans driven by increased client activity, notably in commercial real estate.
The decrease in the allowance for loan losses was attributable to a lower consumer, excluding credit card, allowance for loan losses, driven by a reduction in the residential real estate portfolio allowance as a result of continued improvement in home prices and delinquencies and increased granularity in the impairment estimates. The wholesale allowance increased, largely reflecting the impact of downgrades in the Oil & Gas portfolio. For a more detailed discussion of loans and the allowance for loan losses, refer to Credit Risk Management on pages 112–132, and Notes 3, 4, 14 and 15.

Accrued interest and accounts receivable

The decrease was due to lower customer receivables related to client activity in CIB, and a reduction in unsettled securities transactions.

Mortgage servicing rights

For information on MSRs, see Note 17.

Other assets

Other assets increased modestly as a result of an increase in income tax receivables, largely associated with the resolution of certain tax audits, and higher auto operating lease assets from growth in business volume. These factors were mostly offset by lower private equity investments driven by the sale of a portion of the Private Equity business and other portfolio sales.

Deposits

The decrease was attributable to lower wholesale deposits, partially offset by higher consumer deposits. The decrease in wholesale deposits reflected the impact of the Firm's actions to reduce non-operating deposits. The increase in consumer deposits reflected continuing positive growth from strong customer retention. For more information, refer to the Liquidity Risk Management discussion on pages 159–164; and Notes 3 and 19.

Federal funds purchased and securities loaned or sold under repurchase agreements

The decrease was due to a decline in secured financing of trading assets-debt and equity instruments in CIB and of investment securities in the Chief Investment Office ("CIO"). For additional information on the Firm's Liquidity Risk Management, see pages 159–164.

Commercial paper

The decrease was associated with the discontinuation of a cash management product that offered customers the option of sweeping their deposits into commercial paper ("customer sweeps"), and lower issuances in the wholesale markets, consistent with Treasury's short-term funding plans. For additional information, see Liquidity Risk Management on pages 159–164.

Accounts payable and other liabilities

The decrease was due to lower brokerage customer payables related to client activity in CIB.

Beneficial interests issued by consolidated VIEs

The decrease was predominantly due to a reduction in commercial paper issued by conduits to third parties and to maturities of certain municipal bond vehicles in CIB, as well as net maturities of credit card securitizations. For further information on Firm-sponsored VIEs and loan securitization trusts, see Off-Balance Sheet Arrangements on pages 77–78 and Note 16.

Long-term debt

The increase was due to net issuances, consistent with Treasury's long-term funding plans. For additional information on the Firm's long-term debt activities, see Liquidity Risk Management on pages 159–164 and Note 21.

Stockholders' equity

The increase was due to net income and preferred stock issuances, partially offset by the declaration of cash dividends on common and preferred stock, and repurchases of common stock. For additional information on accumulated other comprehensive income/(loss) ("AOCI"), see Note 25; for the Firm's capital actions, see Capital Management on page 157 and Notes 22, 23 and 25.

OFF-BALANCE SHEET ARRANGEMENTS AND CONTRACTUAL CASH OBLIGATIONS

In the normal course of business, the Firm enters into various contractual obligations that may require future cash payments. Certain obligations are recognized on-balance sheet, while others are off-balance sheet under accounting principles generally accepted in the U.S (“U.S. GAAP”). The Firm is involved with several types of off–balance sheet arrangements, including through nonconsolidated special-purpose entities (“SPEs”), which are a type of VIE, and through lending-related financial instruments (e.g., commitments and guarantees).

Special-purpose entities

The most common type of VIE is an SPE. SPEs are commonly used in securitization transactions in order to isolate certain assets and distribute the cash flows from those assets to investors. SPEs are an important part of the financial markets, including the mortgage- and asset-backed securities and commercial paper markets, as they provide market liquidity by facilitating investors’ access to specific portfolios of assets and risks. SPEs may be organized as trusts, partnerships or corporations and are typically established for a single, discrete purpose. SPEs are not typically operating entities and usually have a limited life and no employees. The basic SPE structure involves a company selling assets to the SPE; the SPE funds the purchase of those assets by issuing securities to investors.

JPMorgan Chase uses SPEs as a source of liquidity for itself and its clients by securitizing financial assets, and by creating investment products for clients. The Firm is involved with SPEs through multi-seller conduits, investor intermediation activities, and loan securitizations. See Note 16 for further information on these types of SPEs.

The Firm holds capital, as deemed appropriate, against all SPE-related transactions and related exposures, such as derivative transactions and lending-related commitments and guarantees.

The Firm has no commitments to issue its own stock to support any SPE transaction, and its policies require that transactions with SPEs be conducted at arm’s length and reflect market pricing. Consistent with this policy, no JPMorgan Chase employee is permitted to invest in SPEs with which the Firm is involved where such investment would violate the Firm’s Code of Conduct. These rules prohibit employees from self-dealing and acting on behalf of the Firm in transactions with which they or their family have any significant financial interest.

Implications of a credit rating downgrade to JPMorgan Chase Bank, N.A.

For certain liquidity commitments to SPEs, JPMorgan Chase Bank, N.A. could be required to provide funding if its short-term credit rating were downgraded below specific levels,

primarily “P-1”, “A-1” and “F1” for Moody’s Investors Service (“Moody’s”), Standard & Poor’s and Fitch, respectively. These liquidity commitments support the issuance of asset-backed commercial paper by Firm-administered consolidated SPEs. In the event of a short-term credit rating downgrade, JPMorgan Chase Bank, N.A., absent other solutions, would be required to provide funding to the SPE if the commercial paper could not be reissued as it matured. The aggregate amounts of commercial paper outstanding held by third parties as of December 31, 2015 and 2014, was $8.7 billion and $12.1 billion, respectively. The aggregate amounts of commercial paper issued by these SPEs could increase in future periods should clients of the Firm-administered consolidated SPEs draw down on certain unfunded lending-related commitments. These unfunded lending-related commitments were $5.6 billion and $9.9 billion at December 31, 2015 and 2014, respectively. The Firm could facilitate the refinancing of some of the clients’ assets in order to reduce the funding obligation. For further information, see the discussion of Firm-administered multi-seller conduits in Note 16.

The Firm also acts as liquidity provider for certain municipal bond vehicles. The Firm’s obligation to perform as liquidity provider is conditional and is limited by certain termination events, which include bankruptcy or failure to pay by the municipal bond issuer and any credit enhancement provider, an event of taxability on the municipal bonds or the immediate downgrade of the municipal bond to below investment grade. See Note 16 for additional information.

Off–balance sheet lending-related financial instruments, guarantees, and other commitments

JPMorgan Chase provides lending-related financial instruments (e.g., commitments and guarantees) to meet the financing needs of its customers. The contractual amount of these financial instruments represents the maximum possible credit risk to the Firm should the counterparty draw upon the commitment or the Firm be required to fulfill its obligation under the guarantee, and should the counterparty subsequently fail to perform according to the terms of the contract. Most of these commitments and guarantees expire without being drawn or a default occurring. As a result, the total contractual amount of these instruments is not, in the Firm’s view, representative of its actual future credit exposure or funding requirements. For further discussion of lending-related financial instruments, guarantees and other commitments, and the Firm’s accounting for them, see Lending-related commitments on page 127 and Note 29. For a discussion of liabilities associated with loan sales and securitization-related indemnifications, see Note 29.

Management's discussion and analysis

Contractual cash obligations

The accompanying table summarizes, by remaining maturity, JPMorgan Chase's significant contractual cash obligations at December 31, 2015. The contractual cash obligations included in the table below reflect the minimum contractual obligation under legally enforceable contracts with terms that are both fixed and determinable. Excluded from the below table are certain liabilities with variable cash flows and/or no obligation to return a stated amount of principal at maturity.

The carrying amount of on-balance sheet obligations on the Consolidated balance sheets may differ from the minimum contractual amount of the obligations reported below. For a discussion of mortgage repurchase liabilities and other obligations, see Note 29.

Contractual cash obligations						
By remaining maturity at December 31,	2015					2014
(in millions)	2016	2017-2018	2019-2020	After 2020	Total	Total
On-balance sheet obligations						
Deposits[a]	$1,262,865	$5,166	$3,553	$4,555	$1,276,139	$1,361,597
Federal funds purchased and securities loaned or sold under repurchase agreements	151,433	811	3	491	152,738	192,128
Commercial paper	15,562	—	—	—	15,562	66,344
Other borrowed funds[a]	11,331	—	—	—	11,331	15,734
Beneficial interests issued by consolidated VIEs	16,389	18,480	3,093	3,130	41,092	50,200
Long-term debt[a]	45,972	82,293	59,669	92,272	280,206	262,888
Other[b]	3,659	1,201	1,024	2,488	8,372	8,355
Total on-balance sheet obligations	1,507,211	107,951	67,342	102,936	1,785,440	1,957,246
Off-balance sheet obligations						
Unsettled reverse repurchase and securities borrowing agreements[c]	42,482	—	—	—	42,482	40,993
Contractual interest payments[d]	8,787	9,461	6,693	21,208	46,149	48,038
Operating leases[e]	1,668	3,094	2,388	4,679	11,829	12,441
Equity investment commitments[f]	387	—	75	459	921	1,108
Contractual purchases and capital expenditures	1,266	886	276	170	2,598	2,832
Obligations under affinity and co-brand programs	98	275	80	43	496	2,303
Total off-balance sheet obligations	54,688	13,716	9,512	26,559	104,475	107,715
Total contractual cash obligations	$1,561,899	$121,667	$76,854	$129,495	$1,889,915	$2,064,961

(a) Excludes structured notes on which the Firm is not obligated to return a stated amount of principal at the maturity of the notes, but is obligated to return an amount based on the performance of the structured notes.

(b) Primarily includes dividends declared on preferred and common stock, deferred annuity contracts, pension and postretirement obligations and insurance liabilities.

(c) For further information, refer to unsettled reverse repurchase and securities borrowing agreements in Note 29.

(d) Includes accrued interest and future contractual interest obligations. Excludes interest related to structured notes for which the Firm's payment obligation is based on the performance of certain benchmarks.

(e) Includes noncancelable operating leases for premises and equipment used primarily for banking purposes and for energy-related tolling service agreements. Excludes the benefit of noncancelable sublease rentals of $1.9 billion and $2.2 billion at December 31, 2015 and 2014, respectively.

(f) At December 31, 2015 and 2014, included unfunded commitments of $50 million and $147 million, respectively, to third-party private equity funds, and $871 million and $961 million of unfunded commitments, respectively, to other equity investments.

CONSOLIDATED CASH FLOWS ANALYSIS

(in millions)	Year ended December 31, 2015	2014	2013
Net cash provided by/(used in)			
Operating activities	$73,466	$36,593	$107,953
Investing activities	106,980	(165,636)	(150,501)
Financing activities	(187,511)	118,228	28,324
Effect of exchange rate changes on cash	(276)	(1,125)	272
Net decrease in cash and due from banks	$(7,341)	$(11,940)	$(13,952)

Operating activities

JPMorgan Chase’s operating assets and liabilities support the Firm’s lending and capital markets activities, including the origination or purchase of loans initially designated as held-for-sale. Operating assets and liabilities can vary significantly in the normal course of business due to the amount and timing of cash flows, which are affected by client-driven and risk management activities and market conditions. The Firm believes cash flows from operations, available cash balances and its capacity to generate cash through secured and unsecured sources are sufficient to meet the Firm’s operating liquidity needs.

Cash provided by operating activities in 2015 resulted from a decrease in trading assets, predominantly due to client-driven market-making activities in CIB, resulting in lower levels of debt and equity securities. Additionally, cash was provided by a decrease in accounts receivable due to lower client receivables and higher net proceeds from loan sales activities. This was partially offset by cash used due to a decrease in accounts payable and other liabilities, resulting from lower brokerage customer payables related to client activity in CIB. In 2014 cash provided reflected higher net proceeds from loan securitizations and sales activities when compared with 2013. In 2013 cash provided reflected a decrease in trading assets from client-driven market-making activities in CIB, resulting in lower levels of debt securities, partially offset by net cash used in connection with loans originated or purchased for sale. Cash provided by operating activities for all periods also reflected net income after noncash operating adjustments.

Investing activities

The Firm’s investing activities predominantly include loans originated to be held for investment, the investment securities portfolio and other short-term interest-earning assets. Cash provided by investing activities during 2015 predominantly resulted from lower deposits with banks due to the Firm’s actions to reduce wholesale non-operating deposits; and net proceeds from paydowns, maturities, sales and purchases of investment securities. Partially offsetting these net inflows was cash used for net originations of consumer and wholesale loans, a portion of which reflected a shift from investment securities. Cash

used in investing activities during 2014 and 2013 resulted from increases in deposits with banks, attributable to higher levels of excess funds; cash was also used for growth in wholesale and consumer loans in 2014, while in 2013 cash used reflected growth only in wholesale loans. Partially offsetting these cash outflows in 2014 and 2013 was a net decline in securities purchased under resale agreements due to a shift in the deployment of the Firm’s excess cash by Treasury, and a net decline in consumer loans in 2013 resulting from paydowns and portfolio runoff or liquidation of delinquent loans. Investing activities in 2014 and 2013 also reflected net proceeds from paydowns, maturities, sales and purchases of investment securities.

Financing activities

The Firm’s financing activities includes cash related to customer deposits, long-term debt, and preferred and common stock. Cash used in financing activities in 2015 resulted from lower wholesale deposits partially offset by higher consumer deposits. Additionally, in 2015 cash outflows were attributable to lower levels of commercial paper due to the discontinuation of a cash management product that offered customers the option of sweeping their deposits into commercial paper; lower commercial paper issuances in the wholesale markets; and a decrease in securities loaned or sold under repurchase agreements due to a decline in secured financings. Cash provided by financing activities in 2014 and 2013 predominantly resulted from higher consumer and wholesale deposits; partially offset in 2013 by a decrease in securities loaned or sold under repurchase agreements, predominantly due to changes in the mix of the

Firm’s funding sources. For all periods, cash was provided by net proceeds from long-term borrowings and issuances of preferred stock; and cash was used for repurchases of common stock and cash dividends on common and preferred stock.

* * *

For a further discussion of the activities affecting the Firm’s cash flows, see Consolidated Balance Sheets Analysis on pages 75–76, Capital Management on pages 149–158, and Liquidity Risk Management on pages 159–164.

Management's discussion and analysis

EXPLANATION AND RECONCILIATION OF THE FIRM'S USE OF NON-GAAP FINANCIAL MEASURES

The Firm prepares its Consolidated Financial Statements using U.S. GAAP; these financial statements appear on pages 176–180. That presentation, which is referred to as "reported" basis, provides the reader with an understanding of the Firm's results that can be tracked consistently from year to year and enables a comparison of the Firm's performance with other companies' U.S. GAAP financial statements.

In addition to analyzing the Firm's results on a reported basis, management reviews the Firm's results, including the overhead ratio, and the results of the lines of business, on a "managed" basis, which are non-GAAP financial measures. The Firm's definition of managed basis starts with the reported U.S. GAAP results and includes certain reclassifications to present total net revenue for the Firm (and each of the reportable business segments) on an FTE basis. Accordingly, revenue from investments that receive tax credits and tax-exempt securities is presented in the managed results on a basis comparable to taxable investments and securities. This non-GAAP financial measure allows management to assess the comparability of revenue arising from both taxable and tax-exempt sources. The corresponding income tax impact related to tax-exempt items is recorded within income tax expense. These adjustments have no impact on net income as reported by the Firm as a whole or by the lines of business.

Effective January 1, 2015, the Firm adopted new accounting guidance for investments in affordable housing projects that qualify for the low-income housing tax credit, which impacted the CIB. As a result of the adoption of this new guidance, the Firm made an accounting policy election to amortize the initial cost of qualifying investments in proportion to the tax credits and other benefits received, and to present the amortization as a component of income tax expense; previously such amounts were predominantly presented in other income. The guidance was required to be applied retrospectively and, accordingly, certain prior period amounts have been revised to conform with the current period presentation. The adoption of the guidance did not materially change the Firm's results of operations on a managed basis as the Firm had previously presented and will continue to present the revenue from such investments on an FTE basis in other income for the purposes of managed basis reporting.

Management also uses certain non-GAAP financial measures at the business-segment level, because it believes these other non-GAAP financial measures provide information to investors about the underlying operational performance and trends of the particular business segment and, therefore, facilitate a comparison of the business segment with the performance of its competitors. Non- GAAP financial measures used by the Firm may not be comparable to similarly named non-GAAP financial measures used by other companies.

The following summary table provides a reconciliation from the Firm's reported U.S. GAAP results to managed basis.

	2015			2014			2013		
Year ended December 31, (in millions, except ratios)	Reported Results	Fully taxable-equivalent adjustments[(a)]	Managed basis	Reported Results	Fully taxable-equivalent adjustments[(a)]	Managed basis	Reported Results	Fully taxable-equivalent adjustments[(a)]	Managed basis
Other income	$3,032	$ 1,980	$5,012	$3,013	$ 1,788	$4,801	$4,608	$1,660	$6,268
Total noninterest revenue	50,033	1,980	52,013	51,478	1,788	53,266	54,048	1,660	55,708
Net interest income	43,510	1,110	44,620	43,634	985	44,619	43,319	697	44,016
Total net revenue	93,543	3,090	96,633	95,112	2,773	97,885	97,367	2,357	99,724
Pre-provision profit	34,529	3,090	37,619	33,838	2,773	36,611	26,900	2,357	29,257
Income before income tax	30,702	3,090	33,792	30,699	2,773	33,472	26,675	2,357	29,032

expense									
Income tax expense	6,260	3,090	9,350	8,954	2,773	11,727	8,789	2,357	11,146
Overhead ratio	63 %	NM	61 %	64 %	NM	63 %	72%	NM	71%

(a) Predominantly recognized in CIB and CB business segments and Corporate

Calculation of certain U.S. GAAP and non-GAAP financial measures
Certain U.S. GAAP and non-GAAP financial measures are calculated as follows:
Book value per share ("BVPS")
Common stockholders' equity at period-end /
Common shares at period-end
Overhead ratio
Total noninterest expense / Total net revenue
Return on assets ("ROA")
Reported net income / Total average assets
Return on common equity ("ROE")
Net income* / Average common stockholders' equity
Return on tangible common equity ("ROTCE")
Net income* / Average tangible common equity
Tangible book value per share ("TBVPS")
Tangible common equity at period-end / Common shares at period-end
* Represents net income applicable to common equity

Tangible common equity ("TCE"), ROTCE and TBVPS are each non-GAAP financial measures. TCE represents the Firm's common stockholders' equity (i.e., total stockholders' equity less preferred stock) less goodwill and identifiable intangible assets (other than MSRs), net of related deferred tax liabilities. ROTCE measures the Firm's earnings as a percentage of average TCE. TBVPS represents the Firm's TCE at period-end divided by common shares at period-end. TCE, ROTCE, and TBVPS are meaningful to the Firm, as well as investors and analysts, in assessing the Firm's use of equity.
Additionally, certain credit and capital metrics and ratios disclosed by the Firm are non-GAAP measures. For additional information on these non-GAAP measures, see Credit Risk Management on pages 112–132, and Capital Management on pages 149–158.

Tangible common equity

	Period-end		Average		
	Dec 31,	Dec 31,	Year ended December 31,		
(in millions, except per share and ratio data)	2015	2014	2015	2014	2013
Common stockholders' equity	$221,505	$211,664	$215,690	$207,400	$196,409
Less: Goodwill	47,325	47,647	47,445	48,029	48,102
Less: Certain identifiable intangible assets	1,015	1,192	1,092	1,378	1,950
Add: Deferred tax liabilities(a)	3,148	2,853	2,964	2,950	2,885
Tangible common equity	$176,313	$165,678	$170,117	$160,943	$149,242
Return on tangible common equity	NA	NA	13 %	13 %	11 %
Tangible book value per share	$48.13	$44.60	NA	NA	N/A

(a) Represents deferred tax liabilities related to tax-deductible goodwill and to identifiable intangibles created in nontaxable transactions, which are netted against goodwill and other intangibles when calculating TCE.

Net interest income excluding markets-based activities (formerly core net interest income)

In addition to reviewing net interest income on a managed basis, management also reviews net interest income excluding CIB's markets-based activities to assess the performance of the Firm's lending, investing (including asset-liability management) and deposit-raising activities. The data presented below are non-GAAP financial measures due to the exclusion of CIB's markets-based net interest income and related assets. Management believes this exclusion provides investors and analysts with another measure by which to analyze the non-markets-related business trends of the Firm and provides a comparable measure to other financial institutions that are primarily focused on lending, investing and deposit-raising activities.

Net interest income excluding CIB markets-based activities data

Year ended December 31, (in millions, except rates)	2015	2014	2013
Net interest income – managed basis[(a)(b)]	$44,620	$44,619	$44,016
Less: Markets-based net interest income	4,813	5,552	5,492
Net interest income excluding markets[(a)]	$39,807	$39,067	$38,524
Average interest-earning assets	$2,088,242	$2,049,093	$1,970,231
Less: Average markets-based interest-earning assets	493,225	510,261	504,218
Average interest-earning assets excluding markets	$1,595,017	$1,538,832	$1,466,013
Net interest yield on average interest-earning assets – managed basis	2.14 %	2.18 %	2.23 %
Net interest yield on average markets-based interest-earning assets	0.97	1.09	1.09
Net interest yield on average interest-earning assets excluding markets	2.50 %	2.54 %	2.63 %

(a) Interest includes the effect of related hedging derivatives. Taxable-equivalent amounts are used where applicable.

(b) For a reconciliation of net interest income on a reported and managed basis, see reconciliation from the Firm's reported U.S. GAAP results to managed basis on page 80.

2015 compared with 2014

Net interest income excluding CIB's markets-based activities increased by $740 million in 2015 to $39.8 billion, and average interest-earning assets increased by $56.2 billion to $1.6 trillion. The increase in net interest income in 2015 predominantly reflected higher average loan balances and lower interest expense on deposits. The increase was partially offset by lower loan yields and lower investment securities net interest income. The increase in average interest-earning assets largely reflected the impact of higher average deposits with banks. These changes in net interest income and interest-earning assets resulted in the net interest yield decreasing by 4 basis points to 2.50% for 2015.

2014 compared with 2013

Net interest income excluding CIB's markets-based activities increased by $543 million in 2014 to $39.1 billion, and average interest-earning assets increased by $72.8 billion to $1.5 trillion. The increase in net interest income in 2014 predominantly reflected higher yields on investment securities, the impact of lower interest expense, and higher average loan balances. The increase was partially offset by lower yields on loans due to the run-off of higher-yielding loans and new originations of lower-yielding loans. The increase in average interest-earning assets largely reflected the impact of higher average balance of deposits with banks. These changes in net interest income and interest-earning assets resulted in the net interest yield decreasing by 9 basis points to 2.54% for 2014.

BUSINESS SEGMENT RESULTS

The Firm is managed on a line of business basis. There are four major reportable business segments – Consumer & Community Banking, Corporate & Investment Bank, Commercial Banking and Asset Management. In addition, there is a Corporate segment.

The business segments are determined based on the products and services provided, or the type of customer served, and they reflect the manner in which financial information is currently evaluated by management. Results of these lines of business are presented on a managed basis. For a definition of managed basis, see Explanation and Reconciliation of the Firm's use of Non-GAAP Financial Measures, on pages 80–82.

JPMorgan Chase						
Consumer Businesses			Wholesale Businesses			
Consumer & Community Banking			Corporate & Investment Bank		Commercial Banking	Asset Management
Consumer & Business Banking	Mortgage Banking	Card, Commerce Solutions & Auto	Banking	Markets & Investor Services	• Middle Market Banking	• Global Investment Management
• Consumer Banking/Chase Wealth Management • Business Banking	• Mortgage Production • Mortgage Servicing • Real Estate Portfolios	• Card Services – Credit Card – Commerce Solutions • Auto & Student	• Investment Banking • Treasury Services • Lending	• Fixed Income Markets • Equity Markets • Securities Services • Credit Adjustments & Other	• Corporate Client Banking • Commercial Term Lending • Real Estate Banking	• Global Wealth Management

Description of business segment reporting methodology

Results of the business segments are intended to reflect each segment as if it were essentially a stand-alone business. The management reporting process that derives business segment results allocates income and expense using market-based methodologies. The Firm periodically assesses the assumptions, methodologies and reporting classifications used for segment reporting, and further refinements may be implemented in future periods.

Revenue sharing

When business segments join efforts to sell products and services to the Firm's clients, the participating business segments agree to share revenue from those transactions. The segment results reflect these revenue-sharing agreements.

Funds transfer pricing

Funds transfer pricing is used to allocate interest income and expense to each business and transfer the primary interest rate risk exposures to the Treasury group within Corporate. The allocation process is unique to each business segment and considers the interest rate risk, liquidity risk and regulatory requirements of that segment as if it were operating independently, and as compared with its stand-alone peers. This process is overseen by senior management and reviewed by the Firm's Asset-Liability Committee ("ALCO").

Preferred stock dividend allocation

As part of its funds transfer pricing process, the Firm allocates substantially all of the cost of its outstanding preferred stock to its reportable business segments, while retaining the balance of the cost in Corporate. This cost is included as a reduction to net income applicable to common equity in order to be consistent with the presentation of firmwide results.

Business segment capital allocation changes

On at least an annual basis, the Firm assesses the level of capital required for each line of business as well as the assumptions and methodologies used to allocate capital to its lines of business and updates the equity allocations to its lines of business as refinements are implemented. Each business segment is allocated capital by taking into consideration stand-alone peer comparisons, regulatory capital requirements (as estimated under Basel III Advanced Fully Phased-In rules) and economic risk. The amount of capital assigned to each business is referred to as equity. For further information about line of business capital, see Line of business equity on page 156.

Expense allocation

Where business segments use services provided by corporate support units, or another business segment, the costs of those services are allocated to the respective business segments. The expense is generally allocated based on actual cost and use of services provided. In contrast, certain other costs related to corporate support

Management’s discussion and analysis

units, or to certain technology and operations, are not allocated to the business segments and are retained in Corporate. Expense retained in Corporate generally includes parent company costs that would not be incurred if the

segments were stand-alone businesses; adjustments to align corporate support units; and other items not aligned with a particular business segment.

Segment Results – Managed Basis

The following tables summarize the business segment results for the periods indicated.

Year ended December 31,	Total net revenue			Total noninterest expense			Pre-provision profit/(loss)		
(in millions)	2015	2014	2013	2015	2014	2013	2015	2014	2013
Consumer & Community Banking	$43,820	$44,368	$46,537	$24,909	$25,609	$27,842	$18,911	$18,759	$18,695
Corporate & Investment Bank	33,542	34,595	34,712	21,361	23,273	21,744	12,181	11,322	12,968
Commercial Banking	6,885	6,882	7,092	2,881	2,695	2,610	4,004	4,187	4,482
Asset Management	12,119	12,028	11,405	8,886	8,538	8,016	3,233	3,490	3,389
Corporate	267	12	(22)	977	1,159	10,255	(710)	(1,147)	(10,277)
Total	$96,633	$97,885	$99,724	$59,014	$61,274	$70,467	$37,619	$36,611	$29,257

Year ended December 31,	Provision for credit losses			Net income/(loss)			Return on equity		
(in millions, except ratios)	2015	2014	2013	2015	2014	2013	2015	2014	2013
Consumer & Community Banking	$3,059	$3,520	$335	$9,789	$9,185	$11,061	18 %	18 %	23 %
Corporate & Investment Bank	332	(161)	(232)	8,090	6,908	8,850	12	10	15
Commercial Banking	442	(189)	85	2,191	2,635	2,648	15	18	19
Asset Management	4	4	65	1,935	2,153	2,083	21	23	23
Corporate	(10)	(35)	(28)	2,437	864	(6,756)	NM	NM	NM
Total	$3,827	$3,139	$225	$24,442	$21,745	$17,886	11%	10 %	9 %

CONSUMER & COMMUNITY BANKING

Consumer & Community Banking serves consumers and businesses through personal service at bank branches and through ATMs, online, mobile and telephone banking. CCB is organized into Consumer & Business Banking (including Consumer Banking/Chase Wealth Management and Business Banking), Mortgage Banking (including Mortgage Production, Mortgage Servicing and Real Estate Portfolios) and Card, Commerce Solutions & Auto ("Card"). Consumer & Business Banking offers deposit and investment products and services to consumers, and lending, deposit, and cash management and payment solutions to small businesses. Mortgage Banking includes mortgage origination and servicing activities, as well as portfolios consisting of residential mortgages and home equity loans. Card issues credit cards to consumers and small businesses, offers payment processing services to merchants, and provides auto loans and leases and student loan services.

Selected income statement data

Year ended December 31, (in millions, except ratios)	2015		2014		2013	
Revenue						
Lending- and deposit-related fees	$3,137		$3,039		$2,983	
Asset management, administration and commissions	2,172		2,096		2,116	
Mortgage fees and related income	2,511		3,560		5,195	
Card income	5,491		5,779		5,785	
All other income	2,281		1,463		1,473	
Noninterest revenue	15,592		15,937		17,552	
Net interest income	28,228		28,431		28,985	
Total net revenue	43,820		44,368		46,537	
Provision for credit losses	3,059		3,520		335	
Noninterest expense						
Compensation expense	9,770		10,538		11,686	
Noncompensation expense	15,139		15,071		16,156	
Total noninterest expense	24,909		25,609		27,842	
Income before income tax expense	15,852		15,239		18,360	
Income tax expense	6,063		6,054		7,299	
Net income	$9,789		$9,185		$11,061	
Financial ratios						
Return on common equity	18	%	18	%	23	%
Overhead ratio	57		58		60	

Note: In the discussion and the tables which follow, CCB presents certain financial measures which exclude the impact of PCI loans; these are non-GAAP financial measures. For additional information, see Explanation and Reconciliation of the Firm's Use of Non-GAAP Financial Measures.

2015 compared with 2014

Consumer & Community Banking net income was $9.8 billion, an increase of 7% compared with the prior year, driven by lower noninterest expense and lower provision for credit losses, largely offset by lower net revenue.

Net revenue was $43.8 billion, a decrease of 1% compared with the prior year. Net interest income was $28.2 billion, down 1%, driven by spread compression, predominantly offset by higher deposit and loan balances, and improved credit quality including lower reversals of interest and fees due to lower net charge-offs in Credit Card. Noninterest revenue was $15.6 billion, down 2%, driven by lower mortgage fees and related income, predominantly offset by higher auto lease and card sales volume, and the impact of non-core portfolio exits in Card in the prior year.

The provision for credit losses was $3.1 billion, a decrease of 13% from the prior year, reflecting lower net charge-offs, partially offset by a lower reduction in the allowance for loan losses. The current-year provision reflected a $1.0 billion reduction in the allowance for loan losses, compared with a $1.3 billion reduction in the prior year.
Noninterest expense was $24.9 billion, a decrease of 3% from the prior year, driven by lower Mortgage Banking expense.
2014 compared with 2013
Consumer & Community Banking net income was $9.2 billion, a decrease of 17% compared with the prior year, due to higher provision for credit losses and lower net revenue, partially offset by lower noninterest expense.
Net revenue was $44.4 billion, a decrease of 5% compared with the prior year. Net interest income was $28.4 billion, down 2%, driven by spread compression and lower mortgage warehouse balances, largely offset by higher deposit balances in Consumer & Business Banking and higher loan balances in Credit Card. Noninterest revenue was $16.0 billion, a decrease of 9%, driven by lower mortgage fees and related income.
The provision for credit losses was $3.5 billion, compared with $335 million in the prior year. The current-year provision reflected a $1.3 billion reduction in the allowance for loan losses and total net charge-offs of $4.8 billion. The prior-year provision reflected a $5.5 billion reduction in the allowance for loan losses and total net charge-offs of $5.8 billion.
Noninterest expense was $25.6 billion, a decrease of 8% from the prior year, driven by lower Mortgage Banking expense.

Management's discussion and analysis

Selected metrics As of or for the year ended December 31, (in millions, except headcount)	2015	2014	2013
Selected balance sheet data (period-end)			
Total assets	$502,652	$455,634	$452,929
Trading assets – loans[(a)]	5,953	8,423	6,832
Loans:			
Loans retained	445,316	396,288	393,351
Loans held-for-sale[(b)]	542	3,416	940
Total loans	445,858	399,704	394,291
Core loans	341,881	273,494	246,751
Deposits	557,645	502,520	464,412
Equity[(c)]	51,000	51,000	46,000
Selected balance sheet data (average)			
Total assets	$472,972	$447,750	$456,468
Trading assets – loans[(a)]	7,484	8,040	15,603
Loans:			
Loans retained	414,518	389,967	392,797
Loans held-for-sale [(d)]	2,062	917	209
Total loans	$416,580	$390,884	$393,006
Core loans	301,700	253,803	234,135
Deposits	530,938	486,919	453,304
Equity[(c)]	51,000	51,000	46,000
Headcount	127,094	137,186	151,333

(a) Predominantly consists of prime mortgages originated with the intent to sell that are accounted for at fair value.

(b) Included period-end credit card loans held-for-sale of $76 million, $3.0 billion and $326 million at December 31, 2015, 2014 and 2013, respectively. These amounts were excluded when calculating delinquency rates and the allowance for loan losses to period-end loans.

(c) Equity is allocated to the sub-business segments with $5.0 billion and $3.0 billion of capital in 2015 and 2014, respectively, held at the CCB level related to legacy mortgage servicing matters.

(d) Included average credit card loans held-for-sale of $1.6 billion, $509 million and $95 million for the years ended December 31, 2015, 2014 and 2013, respectively. These amounts are excluded when calculating the net charge-off rate.

Selected metrics As of or for the year ended December 31, (in millions, except ratios and where otherwise noted)	2015		2014		2013	
Credit data and quality statistics						
Net charge-offs[(a)]	$4,084		$4,773		$5,826	
Nonaccrual loans[(b)(c)]	5,313		6,401		7,455	
Nonperforming assets[(b)(c)]	5,635		6,872		8,109	
Allowance for loan losses[(a)]	9,165		10,404		12,201	
Net charge-off rate[(a)]	0.99	%	1.22	%	1.48	%
Net charge-off rate, excluding PCI loans	1.10		1.40		1.73	
Allowance for loan losses to period-end loans retained	2.06		2.63		3.10	
	1.59		2.02		2.36	

Allowance for loan losses to period-end loans retained, excluding PCI loans[d]			
Allowance for loan losses to nonaccrual loans retained, excluding credit card[b][d]	57	58	57
Nonaccrual loans to total period-end loans, excluding credit card	1.69	2.38	2.80
Nonaccrual loans to total period-end loans, excluding credit card and PCI loans[b]	1.94	2.88	3.49
Business metrics			
Number of:			
Branches	5,413	5,602	5,630
ATMs	17,777	18,056	20,290
Active online customers (in thousands)[e]	39,242	36,396	33,742
Active mobile customers (in thousands)	22,810	19,084	15,629
CCB households (in millions)	57.8	57.2	56.7

(a) Net charge-offs and the net charge-off rates excluded $208 million, $533 million, and $53 million of write-offs in the PCI portfolio for the years ended December 31, 2015, 2014 and 2013, respectively. These write-offs decreased the allowance for loan losses for PCI loans. For further information on PCI write-offs, see Allowance for Credit Losses on pages 130–132.

(b) Excludes PCI loans. The Firm is recognizing interest income on each pool of PCI loans as all of the pools are performing.

(c) At December 31, 2015, 2014 and 2013, nonperforming assets excluded: (1) mortgage loans insured by U.S. government agencies of $6.3 billion, $7.8 billion and $8.4 billion, respectively, that are 90 or more days past due; (2) student loans insured by U.S. government agencies under the Federal Family Education Loan Program (“FFELP”) of $290 million, $367 million and $428 million respectively, that are 90 or more days past due; (3) real estate owned (“REO”) insured by U.S. government agencies of $343 million, $462 million and $2.0 billion, respectively. These amounts have been excluded based upon the government guarantee.

(d) The allowance for loan losses for PCI loans of $2.7 billion, $3.3 billion and $4.2 billion at December 31, 2015, 2014, and 2013, respectively; these amounts were also excluded from the applicable ratios.

(e) Users of all internet browsers and mobile platforms (mobile smartphone, tablet and SMS) who have logged in within the past 90 days.

Consumer & Business Banking

Selected income statement data			
As of or for the year ended December 31,			
(in millions, except ratios)	2015	2014	2013
Revenue			
Lending- and deposit-related fees	$3,112	$3,010	$2,942
Asset management, administration and commissions	2,097	2,025	1,815
Card income	1,721	1,605	1,495
All other income	611	534	492
Noninterest revenue	7,541	7,174	6,744
Net interest income	10,442	11,052	10,668
Total net revenue	17,983	18,226	17,412
Provision for credit losses	254	305	347
Noninterest expense	11,916	12,149	12,162
Income before income tax expense	5,813	5,772	4,903
Net income	$3,581	$3,443	$2,943
Return on common equity	30 %	31 %	26 %
Overhead ratio	66	67	70
Equity (period-end and average)	$11,500	$11,000	$11,000

2015 compared with 2014

Consumer & Business Banking net income was $3.6 billion, an increase of 4% compared with the prior year.

Net revenue was $18.0 billion, down 1% compared with the prior year. Net interest income was $10.4 billion, down 6% due to deposit spread compression, largely offset by higher deposit balances. Noninterest revenue was $7.5 billion, up 5%, driven by higher debit card revenue, reflecting an increase in transaction volume, higher deposit-related fees as a result of an increase in customer accounts and a gain on the sale of a branch.

Noninterest expense was $11.9 billion, a decrease of 2% from the prior year, driven by lower headcount-related expense due to branch efficiencies, partially offset by higher legal expense.

2014 compared with 2013

Consumer & Business Banking net income was $3.4 billion, an increase of 17%, compared with the prior year, due to higher net revenue.

Net revenue was $18.2 billion, up 5% compared with the prior year. Net interest income was $11.1 billion, up 4% compared with the prior year, driven by higher deposit balances, largely offset by deposit spread compression. Noninterest revenue was $7.2 billion, up 6%, driven by higher investment revenue, reflecting an increase in client investment assets, higher debit card revenue, reflecting an increase in transaction volume, and higher deposit-related fees as a result of an increase in customer accounts.

Selected metrics			
As of or for the year ended December 31,			
(in millions, except ratios)	2015	2014	2013
Business metrics			
Business banking origination volume	$6,775	$6,599	$5,148
Period-end loans	22,730	21,200	19,416
Period-end deposits:			
Checking	246,448	213,049	187,182
Savings	279,897	255,148	238,223

Time and other	18,063	21,349	26,022
Total period-end deposits	544,408	489,546	451,427
Average loans	21,894	20,152	18,844
Average deposits:			
Checking	226,713	198,996	176,005
Savings	269,057	249,281	229,341
Time and other	19,452	24,057	29,227
Total average deposits	515,222	472,334	434,573
Deposit margin	1.90 %	2.21 %	2.32 %
Average assets	$41,457	$38,298	$37,174
Credit data and quality statistics			
Net charge-offs	$253	$305	$337
Net charge-off rate	1.16 %	1.51 %	1.79 %
Allowance for loan losses	$703	$703	$707
Nonperforming assets	270	286	391
Retail branch business metrics			
Net new investment assets	$11,852	$16,088	$16,006
Client investment assets	218,551	213,459	188,840
% managed accounts	41 %	39 %	36 %
Number of:			
Chase Private Client locations	2,764	2,514	2,149
Personal bankers	18,041	21,039	23,588
Sales specialists	3,539	3,994	5,740
Client advisors	2,931	3,090	3,044
Chase Private Clients	441,369	325,653	215,888
Accounts (in thousands)[a]	31,342	30,481	29,437

(a) Includes checking accounts and Chase Liquid® cards.

Management's discussion and analysis

Mortgage Banking
Selected Financial statement data

As of or for the year ended December 31, (in millions, except ratios)	2015	2014	2013
Revenue			
Mortgage fees and related income[(a)]	$2,511	$3,560	$5,195
All other income	(65)	37	283
Noninterest revenue	2,446	3,597	5,478
Net interest income	4,371	4,229	4,758
Total net revenue	6,817	7,826	10,236
Provision for credit losses	(690)	(217)	(2,681)
Noninterest expense	4,607	5,284	7,602
Income before income tax expense	2,900	2,759	5,315
Net income	$1,778	$1,668	$3,211
Return on common equity	10%	9%	16%
Overhead ratio	68	68	74
Equity (period-end and average)	$16,000	$18,000	$19,500

(a) For further information on mortgage fees and related income, see Note 17.

2015 compared with 2014

Mortgage Banking net income was $1.8 billion, an increase of 7% from the prior year, driven by lower noninterest expense and a higher benefit from the provision for credit losses, predominantly offset by lower net revenue.

Net revenue was $6.8 billion, a decrease of 13% compared with the prior year. Net interest income was $4.4 billion, an increase of 3% from the prior year, due to higher loan balances resulting from originations of high-quality loans that have been retained, partially offset by spread compression. Noninterest revenue was $2.4 billion, a decrease of 32% from the prior year. This decrease was driven by lower servicing revenue, largely as a result of lower average third-party loans serviced and lower net production revenue, reflecting a lower repurchase benefit.

The provision for credit losses was a benefit of $690 million, compared to a benefit of $217 million in the prior year, reflecting a larger reduction in the allowance for loan losses and lower net charge-offs. The current-year provision reflected a $600 million reduction in the non credit-impaired allowance for loan losses and a $375 million reduction in the purchased credit-impaired allowance for loan losses; the prior-year provision included a $400 million reduction in the non credit-impaired allowance for loan losses and a $300 million reduction in the purchased credit-impaired allowance for loan losses. These reductions were due to continued improvement in home prices and delinquencies in both periods, as well as increased granularity in the impairment estimates in the current year.

Noninterest expense was $4.6 billion, a decrease of 13% from the prior year, reflecting lower headcount-related expense and lower professional fees.

2014 compared with 2013

Mortgage Banking net income was $1.7 billion, a decrease of 48%, from the prior year, driven by a lower benefit from the provision for credit losses and lower net revenue, partially offset by lower noninterest expense.

Net revenue was $7.8 billion, a decrease of 24%, compared with the prior year. Net interest income was $4.2 billion, a decrease of 11%, driven by spread compression and lower loan balances due to portfolio runoff and lower warehouse balances. Noninterest revenue was $3.6 billion, a decrease of 34%, driven by lower net production revenue, largely reflecting lower volumes, lower servicing revenue, largely as a result of lower average third-party loans serviced, and lower revenue from an exited non-core product, largely offset by higher MSR risk management income and lower MSR asset amortization expense as a result of lower MSR asset value. See Note 17 for further information regarding changes in value of the MSR asset and related hedges, and mortgage fees and related income.

The provision for credit losses was a benefit of $217 million, compared to a benefit of $2.7 billion in the prior year, reflecting a smaller reduction in the allowance for loan losses, partially offset by lower net charge-offs. The current-year provision reflected a $400 million reduction in the non credit-impaired allowance for loan losses and $300 million reduction in the purchased credit-impaired allowance for loan losses; the prior-year provision included a $2.3 billion reduction in the non credit-impaired allowance for loan losses and a $1.5 billion reduction in the purchased credit-impaired allowance for loan losses. These reductions were due to continued improvement in home prices and delinquencies.

Noninterest expense was $5.3 billion, a decrease of 30%, from the prior year, reflecting lower headcount-related expense, the absence of non-mortgage-backed securities (“MBS”) related legal expense, lower expense on foreclosure-related matters, and lower FDIC-related expense.

Supplemental information

For the year ended December 31, (in millions)	2015	2014	2013
Net interest income:			
Mortgage Production and Mortgage Servicing	$575	$736	$887
Real Estate Portfolios	3,796	3,493	3,871
Total net interest income	$4,371	$4,229	$4,758
Noninterest expense:			
Mortgage Production	$1,491	$1,644	3,083
Mortgage Servicing	2,041	2,267	2,966
Real Estate Portfolios	1,075	1,373	1,553
Total noninterest expense	$4,607	$5,284	$7,602

Selected balance sheet data As of or for the year ended December 31, (in millions)	2015	2014	2013
Trading assets – loans (period-end)[(a)]	$5,953	$8,423	$6,832
Trading assets – loans (average)[(a)]	7,484	8,040	15,603
Loans, excluding PCI loans			
Period-end loans owned			
Home equity	43,745	50,899	57,863
Prime mortgage, including option adjustable rate mortgages (“ARMs”)	134,361	80,414	65,213
Subprime mortgage	3,732	5,083	7,104
Other	398	477	551
Total period-end loans owned	182,236	136,873	130,731
Average loans owned			
Home equity	47,216	54,410	62,369
Prime mortgage, including option ARMs	107,723	71,491	61,597
Subprime mortgage	4,434	6,257	7,687
Other	436	511	588
Total average loans owned	159,809	132,669	132,241
PCI loans			
Period-end loans owned			
Home equity	14,989	17,095	18,927
Prime mortgage	8,893	10,220	12,038
Subprime mortgage	3,263	3,673	4,175
Option ARMs	13,853	15,708	17,915
Total period-end loans owned	40,998	46,696	53,055
Average loans owned			
Home equity	16,045	18,030	19,950
Prime mortgage	9,548	11,257	12,909
Subprime mortgage	3,442	3,921	4,416
Option ARMs	14,711	16,794	19,236
Total average loans owned	43,746	50,002	56,511
Total Mortgage Banking			
Period-end loans owned			
Home equity	58,734	67,994	76,790
Prime mortgage, including option ARMs	157,107	106,342	95,166
Subprime mortgage	6,995	8,756	11,279
Other	398	477	551
Total period-end loans owned	223,234	183,569	183,786
Average loans owned			
Home equity	63,261	72,440	82,319
Prime mortgage, including option ARMs	131,982	99,542	93,742
Subprime mortgage	7,876	10,178	12,103
Other	436	511	588
Total average loans owned	203,555	182,671	188,752

(a) Predominantly consists of prime mortgages originated with the intent to sell that are accounted for at fair value.

Credit data and quality statistics

As of or for the year ended December 31, (in millions, except ratios)	2015		2014		2013	
Net charge-offs/(recoveries), excluding PCI loans[(a)]						
Home equity	$283		$473		$966	
Prime mortgage, including option ARMs	48		28		53	
Subprime mortgage	(53	)	(27	)	90	
Other	7		9		10	
Total net charge-offs/(recoveries), excluding PCI loans	285		483		1,119	
Net charge-off/(recovery) rate, excluding PCI loans						
Home equity	0.60	%	0.87	%	1.55	%
Prime mortgage, including option ARMs	0.04		0.04		0.09	
Subprime mortgage	(1.22	)	(0.43	)	1.17	
Other	1.61		1.76		1.70	
Total net charge-off/(recovery) rate, excluding PCI loans	0.18		0.37		0.85	
Net charge-off/(recovery) rate – reported[(a)]						
Home equity	0.45		0.65		1.17	
Prime mortgage, including option ARMs	0.04		0.03		0.06	
Subprime mortgage	(0.68	)	(0.27	)	0.74	
Other	1.61		1.76		1.70	
Total net charge-off/(recovery) rate – reported	0.14		0.27		0.59	
30+ day delinquency rate, excluding PCI loans[(b)(c)]	1.57		2.61		3.55	
Allowance for loan losses, excluding PCI loans	$1,588		$2,188		$2,588	
Allowance for PCI loans[(a)]	2,742		3,325		4,158	
Allowance for loan losses	4,330		5,513		6,746	
Nonperforming assets[(d)(e)]	4,971		6,175		7,438	
Allowance for loan losses to period-end loans retained	1.94	%	3.01	%	3.68	%
Allowance for loan losses to period-end loans retained, excluding PCI loans	0.87		1.60		1.99	

(a) Net charge-offs and the net charge-off rates excluded $208 million, $533 million and $53 million of write-offs in the PCI portfolio for the years ended December 31, 2015, 2014 and 2013, respectively. These write-offs decreased the allowance for loan losses for PCI loans. For further information on PCI write-offs, see Allowance for Credit Losses on pages 130–132.

(b) At December 31, 2015, 2014 and 2013, excluded mortgage loans insured by U.S. government agencies of $8.4 billion $9.7 billion and $9.6 billion, respectively, that are 30 or more days past due. These amounts have been excluded based upon the government guarantee. For further discussion, see Note 14 which summarizes loan delinquency information.

(c) The 30+ day delinquency rate for PCI loans was 11.21%, 13.33% and 15.31% at December 31, 2015, 2014 and 2013, respectively.

(d) At December 31, 2015, 2014 and 2013, nonperforming assets excluded: (1) mortgage loans insured by U.S. government agencies of $6.3 billion, $7.8 billion and $8.4 billion, respectively, that are 90 or more days past due and (2) REO insured by U.S. government agencies of $343 million, $462 million and $2.0 billion, respectively. These amounts have been excluded based upon the government guarantee.

(e) Excludes PCI loans. The Firm is recognizing interest income on each pool of PCI loans as all of the pools are performing.

Management's discussion and analysis

Business metrics

As of or for the year ended December 31, (in billions, except ratios)	2015		2014		2013	
Mortgage origination volume by channel						
Retail	$36.1		$29.5		77.0	
Correspondent	70.3		48.5		88.5	
Total mortgage origination volume[(a)]	106.4		78.0		165.5	
Total loans serviced (period-end)	910.1		948.8		1,017.2	
Third-party mortgage loans serviced (period-end)	674.0		751.5		815.5	
Third-party mortgage loans serviced (average)	715.4		784.6		837.3	
MSR carrying value (period-end)	6.6		7.4		9.6	
Ratio of MSR carrying value (period-end) to third-party mortgage loans serviced (period-end)	0.98	%	0.98	%	1.18	%
Ratio of annualized loan servicing-related revenue to third-party mortgage loans serviced (average)	0.35		0.36		0.40	
MSR revenue multiple[(b)]	2.80	x	2.72	x	2.95x	

(a) Firmwide mortgage origination volume was $115.2 billion, $83.3 billion and $176.4. billion for the years ended December 31, 2015, 2014 and 2013, respectively.

(b) Represents the ratio of MSR carrying value (period-end) to third-party mortgage loans serviced (period-end) divided by the ratio of loan servicing-related revenue to third-party mortgage loans serviced (average).

Mortgage servicing-related matters

The financial crisis resulted in unprecedented levels of delinquencies and defaults of 1–4 family residential real estate loans. Such loans required varying degrees of loss mitigation activities. Foreclosure is usually a last resort, and accordingly, the Firm has made, and continues to make, significant efforts to help borrowers remain in their homes.

The Firm entered into various Consent Orders and settlements with federal and state governmental agencies and private parties related to mortgage servicing, origination, and residential mortgage-backed securities activities. The requirements of these Consent Orders and settlements vary, but in the aggregate, include cash compensatory payments (in addition to fines) and/or "borrower relief," which may include principal reduction, refinancing, short sale assistance, and other specified types of borrower relief. Other obligations required under certain Consent Orders and settlements, as well as under new regulatory requirements, include enhanced mortgage servicing and foreclosure standards and processes.

On June 11, 2015, the Firm signed the Second Amended Mortgage Banking Consent Order (the "Amended OCC Consent Order") with the Office of the Comptroller of the Currency ("OCC"), which focused on ten remaining open items from the original mortgage-servicing Consent Order entered into with the OCC in April 2011 and imposed certain business restrictions on the Firm's mortgage banking activities. The Firm completed its work on those items, and on January 4, 2016, the OCC terminated the Amended OCC Consent Order and lifted the mortgage business restrictions. The Firm remains under the mortgage-servicing Consent Order entered into with the Board of Governors of the Federal Reserve System ("Federal Reserve") on April 13, 2011, as amended on February 28, 2013 (the "Federal Reserve Consent Order"). The Audit Committee of the Board of Directors will provide governance and oversight of the

Federal Reserve Consent Order in 2016.
The Federal Reserve Consent Order and certain other mortgage-related settlements are the subject of ongoing reporting to various regulators and independent overseers. The Firm's compliance with certain of these settlements is detailed in periodic reports published by the independent overseers. The Firm is committed to fulfilling all of these commitments with appropriate due diligence and oversight.

Card, Commerce Solutions & Auto
Selected income statement data

As of or for the year ended December 31, (in millions, except ratios)	2015	2014	2013
Revenue			
Card income	$3,769	$4,173	$4,289
All other income	1,836	993	1,041
Noninterest revenue	5,605	5,166	5,330
Net interest income	13,415	13,150	13,559
Total net revenue	19,020	18,316	18,889
Provision for credit losses	3,495	3,432	2,669
Noninterest expense[(a)]	8,386	8,176	8,078
Income before income tax expense	7,139	6,708	8,142
Net income	$4,430	$4,074	$4,907
Return on common equity	23 %	21 %	31 %
Overhead ratio	44	45	43
Equity (period-end and average)	$18,500	$19,000	$15,500

Note: Chase Commerce Solutions, formerly known as Merchant Services, includes Chase Paymentech, ChaseNet and Chase Offers businesses.

(a) Included operating lease depreciation expense of $1.4 billion, $1.2 billion and $972 million for the years ended December 31, 2015, 2014 and 2013, respectively.

2015 compared with 2014

Card net income was $4.4 billion, an increase of 9% compared with the prior year, driven by higher net revenue, partially offset by higher noninterest expense.

Net revenue was $19.0 billion, an increase of 4% compared with the prior year. Net interest income was $13.4 billion, up 2% from the prior year, driven by higher loan balances and improved credit quality including lower reversals of interest and fees due to lower net charge-offs in Credit Card and a reduction in the reserve for uncollectible interest and fees, partially offset by spread compression. Noninterest revenue was $5.6 billion, up 8% compared with the prior year, driven by higher auto lease and card sales volumes, the impact of non-core portfolio exits in the prior year and a gain on the investment in Square, Inc. upon its initial public offering, largely offset by the impact of renegotiated co-brand partnership agreements and higher amortization of new account origination costs.

The provision for credit losses was $3.5 billion, an increase of 2% compared with the prior year, reflecting a lower reduction in the allowance for loan losses, predominantly offset by lower net charge-offs. The current-year provision reflected a $51 million reduction in the allowance for loan losses, primarily due to runoff in the student loan portfolio. The prior-year provision included a $554 million reduction in the allowance for loan losses, primarily related to a decrease in the asset-specific allowance resulting from increased granularity of the impairment estimates and lower balances related to credit card loans modified in troubled debt restructurings (“TDRs”), runoff in the student loan portfolio and lower estimated losses in auto loans.

Noninterest expense was $8.4 billion, up 3% from the prior year, driven by higher auto lease depreciation and higher marketing expense, partially offset by lower legal expense.

2014 compared with 2013

Card net income was $4.1 billion, a decrease of 17%, compared with the prior year, predominantly driven by higher provision for credit losses and lower net revenue.

Net revenue was $18.3 billion, down 3% compared with the prior year. Net interest income was $13.2 billion, a decrease of 3% from the prior year, primarily driven by spread compression in Credit Card and Auto, partially offset by higher average loan balances. Noninterest revenue was $5.2 billion, down 3% from the prior year. The decrease was primarily driven by higher amortization of new account origination costs and the impact of non-core portfolio exits, largely offset by higher auto lease income and net interchange income from higher sales volume.

The provision for credit losses was $3.4 billion, compared with $2.7 billion in the prior year. The current-year provision reflected lower net charge-offs and a $554 million reduction in the allowance for loan losses. The reduction in the allowance for loan losses was primarily related to a decrease in the asset-specific allowance resulting from increased granularity of the impairment estimates and lower balances related to credit card loans modified in TDRs, runoff in the student loan portfolio, and lower estimated losses in auto loans. The prior-year provision included a $1.7 billion reduction in the allowance for loan losses.

Noninterest expense was $8.2 billion, up 1% from the prior year, primarily driven by higher auto lease depreciation expense and higher investment in controls, predominantly offset by lower intangible amortization and lower remediation costs.

Selected metrics As of or for the year ended December 31, (in millions, except ratios and where otherwise noted)	2015	2014	2013
Selected balance sheet data (period-end)			
Loans:			
Credit Card	$131,463	$131,048	$127,791
Auto	60,255	54,536	52,757
Student	8,176	9,351	10,541
Total loans	$199,894	$194,935	$191,089
Auto operating lease assets	9,182	6,690	5,512
Selected balance sheet data (average)			
Total assets	$206,765	$202,609	$198,265
Loans:			
Credit Card	125,881	125,113	123,613
Auto	56,487	52,961	50,748
Student	8,763	9,987	11,049
Total loans	$191,131	$188,061	$185,410
Auto operating lease assets	7,807	6,106	5,102
Business metrics			
Credit Card, excluding Commercial Card			
Sales volume (in billions)	$495.9	$465.6	$419.5
New accounts opened	8.7	8.8	7.3
Open accounts	59.3	64.6	65.3
Accounts with sales activity	33.8	34.0	32.3
% of accounts acquired online	67 %	56 %	55 %
Commerce Solutions			
Merchant processing volume (in billions)	$949.3	$847.9	$750.1
Total transactions (in billions)	42.0	38.1	35.6
Auto			
Loan and lease origination volume (in billions)	32.4	27.5	26.1

The following are brief descriptions of selected business metrics within Card, Commerce Solutions & Auto.
Card Services includes the Credit Card and Commerce Solutions businesses.
Commerce Solutions is a business that primarily processes transactions for merchants.
Total transactions – Number of transactions and authorizations processed for merchants.
Sales volume – Dollar amount of cardmember purchases, net of returns.
Open accounts – Cardmember accounts with charging privileges.
Accounts with sales activity – represents the number of cardmember accounts with a sales transaction within the past month.
Auto origination volume – Dollar amount of auto loans and leases originated.

Selected metrics As of or for the year ended December 31, (in millions, except ratios)	2015	2014	2013
Credit data and quality statistics			
Net charge-offs:			
Credit Card	$3,122	$3,429	$3,879
Auto	214	181	158
Student	210	375	333
Total net charge-offs	$3,546	$3,985	$4,370
Net charge-off rate:			
Credit Card[(a)]	2.51 %	2.75 %	3.14 %
Auto	0.38	0.34	0.31
Student	2.40	3.75	3.01
Total net charge-off rate	1.87	2.12	2.36
Delinquency rates			
30+ day delinquency rate:			
Credit Card[(b)]	1.43	1.44	1.67
Auto	1.35	1.23	1.15
Student[(c)]	1.81	2.35	2.56
Total 30+ day delinquency rate	1.42	1.42	1.58
90+ day delinquency rate – Credit Card[(b)]	0.72	0.70	0.80
Nonperforming assets[(d)]	$394	$411	$280
Allowance for loan losses:			
Credit Card	$3,434	$3,439	$3,795
Auto & Student	698	749	953
Total allowance for loan losses	$4,132	$4,188	$4,748
Allowance for loan losses to period-end loans:			
Credit Card[(b)]	2.61 %	2.69 %	2.98 %
Auto & Student	1.02	1.17	1.51
Total allowance for loan losses to period-end loans	2.07	2.18	2.49

(a) Average credit card loans included loans held-for-sale of $1.6 billion, $509 million and $95 million for the years ended December 31, 2015, 2014 and 2013, respectively. These amounts are excluded when calculating the net charge-off rate.

(b) Period-end credit card loans included loans held-for-sale of $76 million,$3.0 billion and $326 million at December 31, 2015, 2014 and 2013, respectively. These amounts were excluded when calculating delinquency rates and the allowance for loan losses to period-end loans.

(c) Excluded student loans insured by U.S. government agencies under the FFELP of $526 million, $654 million and $737 million at December 31, 2015, 2014 and 2013, respectively, that are 30 or more days past due. These amounts have been excluded based upon the government guarantee.

(d) Nonperforming assets excluded student loans insured by U.S. government agencies under the FFELP of $290 million, $367 million and $428 million at December 31, 2015, 2014 and 2013, respectively, that are 90 or more days past due. These amounts have been excluded from nonaccrual loans based upon the government guarantee.

Card Services supplemental information Year ended December 31, (in millions, except ratios)	2015	2014	2013

Revenue			
Noninterest revenue	$3,673	$3,593	$3,977
Net interest income	11,845	11,462	11,638
Total net revenue	15,518	15,055	15,615
Provision for credit losses	3,122	3,079	2,179
Noninterest expense	6,065	6,152	6,245
Income before income tax expense	6,331	5,824	7,191
Net income	$3,930	$3,547	$4,340
Percentage of average loans:			
Noninterest revenue	2.92 %	2.87 %	3.22 %
Net interest income	9.41	9.16	9.41
Total net revenue	12.33	12.03	12.63

CORPORATE & INVESTMENT BANK

The Corporate & Investment Bank, which consists of Banking and Markets & Investor Services, offers a broad suite of investment banking, market-making, prime brokerage, and treasury and securities products and services to a global client base of corporations, investors, financial institutions, government and municipal entities. Banking offers a full range of investment banking products and services in all major capital markets, including advising on corporate strategy and structure, capital-raising in equity and debt markets, as well as loan origination and syndication. Banking also includes Treasury Services, which provides transaction services, consisting of cash management and liquidity solutions. Markets & Investor Services is a global market-maker in cash securities and derivative instruments, and also offers sophisticated risk management solutions, prime brokerage, and research. Markets & Investor Services also includes Securities Services, a leading global custodian which provides custody, fund accounting and administration, and securities lending products principally for asset managers, insurance companies and public and private investment funds.

Selected income statement data

Year ended December 31, (in millions)	2015	2014	2013
Revenue			
Investment banking fees	$6,736	$6,570	$6,331
Principal transactions[(a)]	9,905	8,947	9,289
Lending- and deposit-related fees	1,573	1,742	1,884
Asset management, administration and commissions	4,467	4,687	4,713
All other income	1,012	1,474	1,519
Noninterest revenue	23,693	23,420	23,736
Net interest income	9,849	11,175	10,976
Total net revenue[(b)]	33,542	34,595	34,712
Provision for credit losses	332	(161)	(232)
Noninterest expense			
Compensation expense	9,973	10,449	10,835
Noncompensation expense	11,388	12,824	10,909
Total noninterest expense	21,361	23,273	21,744
Income before income tax expense	11,849	11,483	13,200
Income tax expense	3,759	4,575	4,350
Net income	$8,090	$6,908	$8,850

(a) Included FVA and debt valuation adjustment ("DVA") on OTC derivatives and structured notes, measured at fair value. FVA and DVA gains/(losses) were $687 million and $468 million and $(1.9) billion for the years ended December 31, 2015, 2014 and 2013, respectively.

(b) Included tax-equivalent adjustments, predominantly due to income tax credits related to alternative energy investments; income tax credits and amortization of the cost of investments in affordable housing projects; as well as tax-exempt income from municipal bond investments of $1.7 billion, $1.6 billion and $1.5 billion for the years ended December 31, 2015, 2014 and 2013, respectively.

Selected income statement data

Year ended December 31, (in millions, except ratios)	2015	2014	2013
Financial ratios			
Return on common equity	12%	10%	15%
Overhead ratio	64	67	63

Compensation expense as percentage of total net revenue	30	30	31
Revenue by business			
Investment banking[(a)]	6,376	6,122	5,922
Treasury Services[(b)]	3,631	3,728	3,693
Lending[(b)]	1,461	1,547	2,147
Total Banking[(a)]	11,468	11,397	11,762
Fixed Income Markets[(a)]	12,592	14,075	15,976
Equity Markets[(a)]	5,694	5,044	4,994
Securities Services	3,777	4,351	4,100
Credit Adjustments & Other[(c)]	11	(272)	(2,120)
Total Markets & Investor Service[(a)]	22,074	23,198	22,950
Total net revenue	$33,542	$34,595	$34,712

(a) Effective in 2015, Investment banking revenue (formerly Investment banking fees) incorporates all revenue associated with investment banking activities, and is reported net of investment banking revenue shared with other lines of business; previously such shared revenue had been reported in Fixed Income Markets and Equity Markets. Prior period amounts have been revised to conform with the current period presentation.

(b) Effective in 2015, Trade Finance revenue was transferred from Treasury Services to Lending. Prior period amounts have been revised to conform with the current period presentation.

(c) Consists primarily of credit valuation adjustments (“CVA”) managed by the credit portfolio group, and FVA and DVA on OTC derivatives and structured notes. Results are presented net of associated hedging activities and net of CVA and FVA amounts allocated to Fixed Income Markets and Equity Markets.

2015 compared with 2014

Net income was $8.1 billion, up 17% compared with $6.9 billion in the prior year. The increase primarily reflected lower income tax expenses largely reflecting the release in 2015 of U.S. deferred taxes associated with the restructuring of certain non-U.S. entities and lower noninterest expense partially offset by lower net revenue, both driven by business simplification, as well as higher provisions for credit losses.

Banking revenue was $11.5 billion, up 1% versus the prior year. Investment banking revenue was $6.4 billion, up 4% from the prior year, driven by higher advisory fees, partially offset by lower debt and equity underwriting fees. Advisory fees were $2.1 billion, up 31% on a greater share of fees for completed transactions as well as growth in the industry-wide fee levels. The Firm maintained its #2 ranking for M&A, according to Dealogic. Debt underwriting fees were $3.2 billion, down 6%, primarily related to lower bond underwriting and loan syndication fees on lower industry-wide fee levels. The Firm ranked #1 globally in fee share across high grade, high yield and loan products. Equity underwriting fees were $1.4 billion, down 9%, driven by lower industry-wide fee levels. The Firm was #1 in equity underwriting fees in 2015, up from #3 in 2014. Treasury Services revenue was $3.6 billion, down 3% compared with the prior year, primarily driven by lower net interest income. Lending revenue was $1.5 billion, down 6% from the prior year, driven by lower trade finance revenue on lower loan balances.

Markets & Investor Services revenue was $22.1 billion, down 5% from the prior year. Fixed Income Markets revenue was $12.6 billion, down 11% from the prior year, primarily driven by the impact of business simplification as well as lower revenue in credit-related products on an industry-wide slowdown, partially offset by increased revenue in Rates and Currencies & Emerging Markets on higher client activity. The lower Fixed Income revenue also reflected higher interest costs on higher long-term debt. Equity Markets revenue was $5.7 billion, up 13%, primarily driven by higher equity derivatives revenue across all regions. Securities Services revenue was $3.8 billion, down 13% from the prior year, driven by lower fees as well as lower net interest income.

The provision for credit losses was $332 million, compared to a benefit of $161 million in the prior year, reflecting a higher allowance for credit losses, including the impact of select downgrades within the Oil & Gas portfolio.

Noninterest expense was $21.4 billion, down 8% compared with the prior year, driven by the impact of business simplification as well as lower legal and compensation expenses.

2014 compared with 2013

Net income was $6.9 billion, down 22% compared with $8.9 billion in the prior year. These results primarily reflected higher noninterest expense. Net revenue was $34.6 billion, flat compared with the prior year.

Banking revenue was $11.4 billion, down 3% from the prior year. Investment banking revenue was $6.1 billion, up 3% from the prior year. The increase was driven by higher advisory and equity underwriting fees, partially offset by lower debt underwriting fees. Advisory fees were $1.6 billion, up 24% on stronger share of fees for completed transactions as well as growth in the industry-wide fee levels, according to Dealogic. Equity underwriting fees were $1.6 billion, up 5%, driven by higher industry-wide issuance. Debt underwriting fees were $3.4 billion, down 4%, primarily related to lower loan syndication fees on lower industry-wide fee levels and lower bond underwriting fees. The Firm also ranked #1 globally in fees and volumes share across high grade, high yield and loan products. The Firm maintained its #2 ranking for M&A, and improved share of fees both globally and in the U.S. compared with the prior year. Treasury Services revenue was $3.7 billion, up 1% compared with the prior year, primarily driven by higher net interest income from increased deposits, largely offset by business simplification initiatives. Lending revenue was $1.5 billion, down from $2.1 billion in the prior year, driven by losses, compared with gains in the prior periods, on securities received from restructured loans, as well as lower net interest income and lower trade finance revenue.

Markets & Investor Services revenue was $23.2 billion, up 1% from the prior year. Fixed Income Markets revenue was $14.1 billion, down 12% from the prior year, driven by lower revenues in Fixed Income primarily from credit-related and rates products as well as the impact of business simplification. Equity Markets revenue was $5.0 billion, up 1% as higher prime services revenue was partially offset by lower equity derivatives revenue. Securities Services revenue was $4.4 billion, up 6% from the prior year, primarily driven by higher net interest income on increased deposits and higher fees and commissions. Credit Adjustments & Other revenue was a loss of $272 million, driven by net CVA losses partially offset by gains, net of hedges, related to FVA/DVA. The prior year was a loss of

$2.1 billion (including the FVA implementation loss of $1.5 billion and DVA losses of $452 million).
Noninterest expense was $23.3 billion, up 7% compared with the prior year as a result of higher legal expense and investment in controls. This was partially offset by lower performance-based compensation expense as well as the impact of business simplification.

Management's discussion and analysis

Selected metrics As of or for the year ended December 31, (in millions, except headcount)	2015	2014	2013
Selected balance sheet data (period-end)			
Assets	$748,691	$861,466	$843,248
Loans:			
Loans retained[(a)]	106,908	96,409	95,627
Loans held-for-sale and loans at fair value	3,698	5,567	11,913
Total loans	110,606	101,976	107,540
Core Loans	110,084	100,772	101,376
Equity	62,000	61,000	56,500
Selected balance sheet data (average)			
Assets	$824,208	$854,712	$859,071
Trading assets-debt and equity instruments	302,514	317,535	321,585
Trading assets-derivative receivables	67,263	64,833	70,353
Loans:			
Loans retained[(a)]	98,331	95,764	104,864
Loans held-for-sale and loans at fair value	4,572	7,599	5,158
Total loans	102,903	103,363	110,022
Core Loans	99,231	102,604	108,199
Equity	62,000	61,000	56,500
Headcount[(b)]	49,067	50,965	52,082

(a) Loans retained includes credit portfolio loans, loans held by consolidated Firm-administered multi-seller conduits, trade finance loans, other held-for-investment loans and overdrafts.

(b) Effective in 2015, certain technology staff were transferred from CIB to CB; previously-reported headcount has been revised to conform with the current period presentation. As the related expense for these staff is not material, prior period expenses have not been revised. Prior to 2015, compensation expense related to this headcount was recorded in the CIB, with an allocation to CB (reported in noncompensation expense); commencing with 2015, such expense is recorded as compensation expense in CB and accordingly total noninterest expense related to this headcount in both CB and CIB remains unchanged.

Selected metrics As of or for the year ended December 31, (in millions, except ratios)	2015	2014	2013
Credit data and quality statistics			
Net charge-offs/(recoveries)	$(19)	$(12)	$(78)
Nonperforming assets:			
Nonaccrual loans:			
Nonaccrual loans retained[(a)]	428	110	163
Nonaccrual loans held-for-sale and loans at fair value	10	11	180
Total nonaccrual loans	438	121	343
Derivative receivables	204	275	415
Assets acquired in loan satisfactions	62	67	80
Total nonperforming assets	704	463	838
Allowance for credit losses:			

Allowance for loan losses	1,258	1,034	1,096
Allowance for lending-related commitments	569	439	525
Total allowance for credit losses	1,827	1,473	1,621
Net charge-off/(recovery) rate	(0.02)%	(0.01)%	0.07 %
Allowance for loan losses to period-end loans retained	1.18	1.07	1.15
Allowance for loan losses to period-end loans retained, excluding trade finance and conduits[b]	1.88	1.82	2.02
Allowance for loan losses to nonaccrual loans retained[a]	294	940	672
Nonaccrual loans to total period-end loans	0.40	0.12	0.32

(a) Allowance for loan losses of $177 million, $18 million and $51 million were held against these nonaccrual loans at December 31, 2015, 2014 and 2013, respectively.

(b) Management uses allowance for loan losses to period-end loans retained, excluding trade finance and conduits, a non-GAAP financial measure, to provide a more meaningful assessment of CIB's allowance coverage ratio.

Business metrics

	Year ended December 31,		
(in millions)	2015	2014	2013
Advisory	$2,133	$1,627	$1,315
Equity underwriting	1,434	1,571	1,499
Debt underwriting	3,169	3,372	3,517
Total investment banking fees	$6,736	$6,570	$6,331

League table results – wallet share

Year ended December 31,	2015 Fee Share	Rankings	2014 Fee Share	Rankings	2013 Fee Share	Rankings
Based on fees[a]						
Debt, equity and equity-related						
Global	7.7%	#1	7.6%	#1	8.3%	#1
U.S.	11.6	1	10.7	1	11.4	1
Long-term debt[b]						
Global	8.3	1	8.0	1	8.2	1
U.S.	11.9	1	11.7	1	11.5	2
Equity and equity-related						
Global[c]	7.0	1	7.1	3	8.4	2
U.S.	11.1	1	9.6	3	11.2	2
M&A[d]						
Global	8.5	2	8.0	2	7.5	2
U.S.	10.0	2	9.7	2	8.7	2
Loan syndications						
Global	7.6	1	9.3	1	9.9	1
U.S.	10.7	2	13.1	1	13.8	1
Global Investment Banking fees [a][e]	7.9%	#1	8.0%	#1	8.5%	#1

League table results – volumes

Year ended December 31,	2015 Market Share	Rankings	2014 Market Share	Rankings	2013 Market Share	Ra
Based on volume[f]						
Debt, equity and equity-related						
Global	6.8%	#1	6.8%	#1	7.3%	#1
U.S.	11.3	1	11.8	1	11.9	1
Long-term debt[b]						
Global	6.8	1	6.7	1	7.2	1
U.S.	10.8	1	11.3	1	11.8	1
Equity and equity-related						
Global[c]	7.2	3	7.5	3	8.2	2
U.S.	12.4	1	11.0	2	12.1	2
M&A announced[d]						
Global	30.1	3	20.5	2	24.1	2
U.S.	36.7	2	25.2	3	36.9	1
Loan syndications						
Global	10.5	1	12.3	1	11.6	1
U.S.	16.8	#1	19.0	#1	17.8	#1

(a) Source: Dealogic. Reflects the ranking of revenue wallet and market share.
(b) Long-term debt rankings include investment-grade, high-yield, supranationals, sovereigns, agencies, covered bonds, asset-l securities ("ABS") and MBS; and exclude money market, short-term debt, and U.S. municipal securities.
(c) Global equity and equity-related rankings include rights offerings and Chinese A-Shares.
(d) M&A and Announced M&A rankings reflect the removal of any withdrawn transactions. U.S. M&A revenue wallet repres wallet from client parents based in the U.S. U.S. announced M&A volumes represents any U.S. involvement ranking.
(e) Global investment banking fees per Dealogic exclude money market, short-term debt and shelf deals.
(f) Source: Dealogic. Reflects transaction volume and market share. Global announced M&A is based on transaction value at announcement; because of joint M&A assignments, M&A market share of all participants will add up to more than 100%. All other transaction volume-based ra are based on proceeds, with full credit to each book manager/equal if joint.

Business metrics

As of or for the year ended December 31,	2015	2014	2013

(in millions, except where otherwise noted)			
Market risk-related revenue – trading loss days[(a)]	9	9	0
Assets under custody ("AUC") by asset class (period-end) in billions:			
Fixed Income	$12,042	$12,328	$11,903
Equity	6,194	6,524	6,913
Other[(b)]	1,707	1,697	1,669
Total AUC	$19,943	$20,549	$20,485
Client deposits and other third party liabilities (average)[(c)]	$395,297	$417,369	$383,667
Trade finance loans (period-end)	19,255	25,713	30,752

(a) Market risk-related revenue is defined as the change in value of: principal transactions revenue; trading-related net interest income; brokerage commissions, underwriting fees or other revenue; and revenue from syndicated lending facilities that the Firm intends to distribute; gains and losses from DVA and FVA are excluded. Market risk-related revenue–trading loss days represent the number of days for which the CIB posted losses under this measure. The loss days determined under this measure differ from the loss days that are determined based on the disclosure of market risk-related gains and losses for the Firm in the value-at-risk ("VaR") back-testing discussion on pages 135–137.

(b) Consists of mutual funds, unit investment trusts, currencies, annuities, insurance contracts, options and other contracts.

(c) Client deposits and other third party liabilities pertain to the Treasury Services and Securities Services businesses.

International metrics Year ended December 31, (in millions)	2015	2014	2013
Total net revenue[(a)]			
Europe/Middle East/Africa	$10,894	$11,598	$10,689
Asia/Pacific	4,901	4,698	4,736
Latin America/Caribbean	1,096	1,179	1,340
Total international net revenue	16,891	17,475	16,765
North America	16,651	17,120	17,947
Total net revenue	$33,542	$34,595	$34,712
Loans (period-end)[(a)]			
Europe/Middle East/Africa	$24,622	$27,155	$29,392
Asia/Pacific	17,108	19,992	22,151
Latin America/Caribbean	8,609	8,950	8,362
Total international loans	50,339	56,097	59,905
North America	56,569	40,312	35,722
Total loans	$106,908	$96,409	$95,627
Client deposits and other third-party liabilities (average)[(a)]			
Europe/Middle East/Africa	$141,062	$152,712	$143,807
Asia/Pacific	67,111	66,933	54,428
Latin America/Caribbean	23,070	22,360	15,301
Total international	$231,243	$242,005	$213,536
North America	164,054	175,364	170,131
Total client deposits and other third-party liabilities	$395,297	$417,369	$383,667
AUC (period-end) (in billions)[(a)]			
North America	$12,034	$11,987	$11,299
All other regions	7,909	8,562	9,186
Total AUC	$19,943	$20,549	$20,485

(a) Total net revenue is based predominantly on the domicile of the client or location of the trading desk, as applicable. Loans outstanding (excluding loans held-for-sale and loans at fair value), client deposits and other third-party liabilities, and AUC are based predominantly on the domicile of the client.

COMMERCIAL BANKING

Commercial Banking delivers extensive industry knowledge, local expertise and dedicated service to U.S. and U.S. multinational clients, including corporations, municipalities, financial institutions and nonprofit entities with annual revenue generally ranging from $20 million to $2 billion. In addition, CB provides financing to real estate investors and owners. Partnering with the Firm's other businesses, CB provides comprehensive financial solutions, including lending, treasury services, investment banking and asset management to meet its clients' domestic and international financial needs.

Selected income statement data

Year ended December 31, (in millions)	2015	2014	2013
Revenue			
Lending- and deposit-related fees	$944	$978	$1,033
Asset management, administration and commissions	88	92	116
All other income[(a)]	1,333	1,279	1,149
Noninterest revenue	2,365	2,349	2,298
Net interest income	4,520	4,533	4,794
Total net revenue[(b)]	6,885	6,882	7,092
Provision for credit losses	442	(189)	85
Noninterest expense			
Compensation expense	1,238	1,203	1,115
Noncompensation expense	1,643	1,492	1,495
Total noninterest expense	2,881	2,695	2,610
Income before income tax expense	3,562	4,376	4,397
Income tax expense	1,371	1,741	1,749
Net income	$2,191	$2,635	$2,648

(a) Includes revenue from investment banking products and commercial card transactions.

(b) Total net revenue included tax-equivalent adjustments from income tax credits related to equity investments in designated community development entities that provide loans to qualified businesses in low-income communities, as well as tax-exempt income from municipal bond activities of $493 million, $462 million and $407 million for the years ended December 31, 2015, 2014 and 2013, respectively.

2015 compared with 2014

Net income was $2.2 billion, a decrease of 17% compared with the prior year, driven by a higher provision for credit losses and higher noninterest expense.

Net revenue was $6.9 billion, flat compared with the prior year. Net interest income was $4.5 billion, flat compared with the prior year, with interest income from higher loan balances offset by spread compression. Noninterest revenue was $2.4 billion, flat compared with the prior year, with higher investment banking revenue offset by lower lending-related fees.

Noninterest expense was $2.9 billion, an increase of 7% compared with the prior year, reflecting investment in controls.

The provision for credit losses was $442 million, reflecting an increase in the allowance for credit losses for Oil & Gas exposure and other select downgrades. The prior year was a benefit of $189 million.

2014 compared with 2013

Net income was $2.6 billion, flat compared with the prior year, reflecting lower net revenue and higher noninterest expense, predominantly offset by a lower provision for credit losses.

Net revenue was $6.9 billion, a decrease of 3% compared with the prior year. Net interest income was $4.5 billion, a decrease of 5%, reflecting spread compression, the absence of proceeds received in the prior year from a lending-related workout, and lower purchase discounts recognized on loan repayments, partially offset by higher loan balances. Noninterest revenue was $2.3 billion, up 2%, reflecting higher investment banking revenue, largely offset by business simplification and lower lending fees.

Noninterest expense was $2.7 billion, an increase of 3% from the prior year, largely reflecting investments in controls.

CB product revenue consists of the following:
Lending includes a variety of financing alternatives, which are primarily provided on a secured basis; collateral includes receivables, inventory, equipment, real estate or other assets. Products include term loans, revolving lines of credit, bridge financing, asset-based structures, leases, and standby letters of credit.
Treasury services includes revenue from a broad range of products and services that enable CB clients to manage payments and receipts, as well as invest and manage funds.
Investment banking includes revenue from a range of products providing CB clients with sophisticated capital-raising alternatives, as well as balance sheet and risk management tools through advisory, equity underwriting, and loan syndications. Revenue from Fixed Income and Equity Markets products used by CB clients is also included.
Investment banking revenue, gross, represents total revenue related to investment banking products sold to CB clients.
Other product revenue primarily includes tax-equivalent adjustments generated from Community Development Banking activities and certain income derived from principal transactions.
CB is divided into four primary client segments: Middle Market Banking, Corporate Client Banking, Commercial Term Lending, and Real Estate Banking.
Middle Market Banking covers corporate, municipal and nonprofit clients, with annual revenue generally ranging between $20 million and $500 million.
Corporate Client Banking covers clients with annual revenue generally ranging between $500 million and $2 billion and focuses on clients that have broader investment banking needs.
Commercial Term Lending primarily provides term financing to real estate investors/owners for multifamily properties as well as office, retail and industrial properties.
Real Estate Banking provides full-service banking to investors and developers of institutional-grade real estate investment properties.
Other primarily includes lending and investment-related activities within the Community Development Banking business.

Selected metrics Year ended December 31, (in millions, except ratios)	2015	2014	2013
Revenue by product			
Lending[(a)]	$3,429	$3,358	$3,730
Treasury services[(a)]	2,581	2,681	2,649
Investment banking	730	684	575
Other[(a)]	145	159	138
Total Commercial Banking net revenue	$6,885	$6,882	$7,092
Investment banking revenue, gross	$2,179	$1,986	$1,676
Revenue by client segment			
Middle Market Banking[(b)]	$2,742	$2,791	$3,015
Corporate Client Banking[(b)]	2,012	1,982	1,911
Commercial Term Lending	1,275	1,252	1,239
Real Estate Banking	494	495	561
Other	362	362	366
Total Commercial Banking net revenue	$6,885	$6,882	$7,092
Financial ratios			
Return on common equity	15 %	18 %	19 %
Overhead ratio	42	39	37

(a)

Effective in 2015, Commercial Card and Chase Commerce Solutions product revenue was transferred from Lending and Other, respectively, to Treasury Services. Prior period amounts were revised to conform with the current period presentation.

(b) Effective in 2015, mortgage warehouse lending clients were transferred from Middle Market Banking to Corporate Client Banking. Prior period revenue, period-end loans, and average loans by client segment were revised to conform with the current period presentation.

Selected metrics (continued)			
As of or for the year ended December 31, (in millions, except headcount)	2015	2014	2013
Selected balance sheet data (period-end)			
Total assets	$200,700	$195,267	$190,782
Loans:			
Loans retained	167,374	147,661	135,750
Loans held-for-sale and loans at fair value	267	845	1,388
Total loans	$167,641	$148,506	$137,138
Core loans	166,939	147,392	135,583
Equity	14,000	14,000	13,500
Period-end loans by client segment			
Middle Market Banking[a]	$51,362	$51,009	$50,702
Corporate Client Banking[a]	31,871	25,321	22,512
Commercial Term Lending	62,860	54,038	48,925
Real Estate Banking	16,211	13,298	11,024
Other	5,337	4,840	3,975
Total Commercial Banking loans	$167,641	$148,506	$137,138
Selected balance sheet data (average)			
Total assets	$198,076	$191,857	$185,776
Loans:			
Loans retained	157,389	140,982	131,100
Loans held-for-sale and loans at fair value	492	782	930
Total loans	$157,881	$141,764	$132,030
Core loans	156,975	140,390	130,141
Client deposits and other third-party liabilities	191,529	204,017	198,356
Equity	14,000	14,000	13,500
Average loans by client segment			
Middle Market Banking[a]	$51,303	$50,939	$50,236
Corporate Client Banking[a]	29,125	23,113	22,512
Commercial Term Lending	58,138	51,120	45,989
Real Estate Banking	14,320	12,080	9,582
Other	4,995	4,512	3,711
Total Commercial Banking loans	$157,881	$141,764	$132,030
Headcount[b]	7,845	7,426	7,016

(a) Effective in 2015, mortgage warehouse lending clients were transferred from Middle Market Banking to Corporate Client Banking. Prior period revenue, period-end loans, and average loans by client segment were revised to conform with the current period presentation.

(b) Effective in 2015, certain technology staff were transferred from CIB to CB; previously-reported headcount has been revised to conform with the current period presentation. As the related expense for these staff is not material, prior period expenses have not been revised. Prior to 2015, compensation expense related to this headcount was recorded in the CIB, with an allocation to CB (reported in noncompensation expense); commencing with 2015, such expense is recorded as compensation expense in CB and accordingly total noninterest expense related to this headcount in both CB and CIB remains unchanged.

Selected metrics (continued)

As of or for the year ended December 31, (in millions, except ratios)	2015		2014		2013	
Credit data and quality statistics						
Net charge-offs/(recoveries)	$21		$(7	)	$43	
Nonperforming assets						
Nonaccrual loans:						
Nonaccrual loans retained[a]	375		317		471	
Nonaccrual loans held-for-sale and loans at fair value	18		14		43	
Total nonaccrual loans	393		331		514	
Assets acquired in loan satisfactions	8		10		15	
Total nonperforming assets	401		341		529	
Allowance for credit losses:						
Allowance for loan losses	2,855		2,466		2,669	
Allowance for lending-related commitments	198		165		142	
Total allowance for credit losses	3,053		2,631		2,811	
Net charge-off/(recovery) rate[b]	0.01	%	—		0.03	%
Allowance for loan losses to period-end loans retained	1.71		1.67		1.97	
Allowance for loan losses to nonaccrual loans retained[a]	761		778		567	
Nonaccrual loans to period-end total loans	0.23		0.22		0.37	

(a) An allowance for loan losses of $64 million, $45 million and $81 million was held against nonaccrual loans retained at December 31, 2015, 2014 and 2013, respectively.

(b) Loans held-for-sale and loans at fair value were excluded when calculating the net charge-off/(recovery) rate.

Management’s discussion and analysis

ASSET MANAGEMENT

Asset Management, with client assets of $2.4 trillion, is a global leader in investment and wealth management. AM clients include institutions, high-net-worth individuals and retail investors in many major markets throughout the world. AM offers investment management across most major asset classes including equities, fixed income, alternatives and money market funds. AM also offers multi-asset investment management, providing solutions for a broad range of clients’ investment needs. For Global Wealth Management clients, AM also provides retirement products and services, brokerage and banking services including trusts and estates, loans, mortgages and deposits. The majority of AM’s client assets are in actively managed portfolios.

Selected income statement data

Year ended December 31, (in millions, except ratios and headcount)	2015	2014	2013
Revenue			
Asset management, administration and commissions	$9,175	$9,024	$8,232
All other income	388	564	797
Noninterest revenue	9,563	9,588	9,029
Net interest income	2,556	2,440	2,376
Total net revenue	12,119	12,028	11,405
Provision for credit losses	4	4	65
Noninterest expense			
Compensation expense	5,113	5,082	4,875
Noncompensation expense	3,773	3,456	3,141
Total noninterest expense	8,886	8,538	8,016
Income before income tax expense	3,229	3,486	3,324
Income tax expense	1,294	1,333	1,241
Net income	$1,935	$2,153	$2,083
Revenue by line of business			
Global Investment Management	$6,301	$6,327	$5,951
Global Wealth Management	5,818	5,701	5,454
Total net revenue	$12,119	$12,028	$11,405
Financial ratios			
Return on common equity	21 %	23 %	23 %
Overhead ratio	73	71	70
Pretax margin ratio:			
Global Investment Management	31	31	32
Global Wealth Management	22	27	26
Asset Management	27	29	29
Headcount	20,975	19,735	20,048
Number of client advisors	2,778	2,836	2,962

2015 compared with 2014

Net income was $1.9 billion, a decrease of 10% compared with the prior year, reflecting higher noninterest expense, partially offset by higher net revenue.

Net revenue was $12.1 billion, an increase of 1%. Net interest income was $2.6 billion, up 5%, driven by higher loan balances and spreads. Noninterest revenue was $9.6 billion, flat from last year, as net client inflows into assets under management and the impact of higher average market levels were predominantly offset by lower performance fees and the sale of Retirement Plan Services ("RPS") in 2014.

Revenue from Global Investment Management was $6.3 billion, flat from the prior year as the sale of RPS in 2014 and lower performance fees were largely offset by net client inflows. Revenue from Global Wealth Management was $5.8 billion, up 2% from the prior year due to higher net interest income from higher loan balances and spreads and net client inflows, partially offset by lower brokerage revenue.

Noninterest expense was $8.9 billion, an increase of 4%, predominantly due to higher legal expense and investment in both infrastructure and controls.

2014 compared with 2013

Net income was $2.2 billion, an increase of 3% from the prior year, reflecting higher net revenue and lower provision for credit losses, predominantly offset by higher noninterest expense.

Net revenue was $12.0 billion, an increase of 5% from the prior year. Noninterest revenue was $9.6 billion, up 6% from the prior year due to net client inflows and the effect of higher market levels, partially offset by lower valuations of seed capital investments. Net interest income was $2.4 billion, up 3% from the prior year due to higher loan and deposit balances, largely offset by spread compression.

Revenue from Global Investment Management was $6.3 billion, up 6% due to net client inflows and the effect of higher market levels, partially offset by lower valuations of seed capital investments. Revenue from Global Wealth Management was $5.7 billion, up 5% from the prior year due to higher net interest income from loan and deposit balances and net client inflows, partially offset by spread compression and lower brokerage revenue.

Noninterest expense was $8.5 billion, an increase of 7% from the prior year as the business continues to invest in both infrastructure and controls.

AM's lines of business consist of the following:
Global Investment Management provides comprehensive global investment services, including asset management, pension analytics, asset-liability management and active risk-budgeting strategies.
Global Wealth Management offers investment advice and wealth management, including investment management, capital markets and risk management, tax and estate planning, banking, lending and specialty-wealth advisory services.
AM's client segments consist of the following:
Private Banking clients include high- and ultra-high-net-worth individuals, families, money managers, business owners and small corporations worldwide.
Institutional clients include both corporate and public institutions, endowments, foundations, nonprofit organizations and governments worldwide.
Retail clients include financial intermediaries and individual investors.
J.P. Morgan Asset Management has two high-level measures of its overall fund performance.
• Percentage of mutual fund assets under management in funds rated 4- or 5-star: Mutual fund rating services rank funds based on their risk-adjusted performance over various periods. A 5-star rating is the best rating and represents the top 10% of industry-wide ranked funds. A 4-star rating represents the next 22.5% of industry-wide ranked funds. A 3-star rating represents the next 35% of industry-wide ranked funds. A 2-star rating represents the next 22.5% of industry-wide ranked funds. A 1-star rating is the worst rating and represents the bottom 10% of industry-wide ranked funds. The "overall Morningstar rating" is derived from a weighted average of the performance associated with a fund's three-, five- and ten-year (if applicable) Morningstar Rating metrics. For U.S. domiciled funds, separate star ratings are given at the individual share class level. The Nomura "star rating" is based on three-year risk-adjusted performance only. Funds with fewer than three years of history are not rated and hence excluded from this analysis. All ratings, the assigned peer categories and the asset values used to derive this analysis are sourced from these fund rating providers mentioned in footnote (a). The data providers re-denominate the asset values into U.S. dollars. This % of AUM is based on star ratings at the share class level for U.S. domiciled funds, and at a "primary share class" level to represent the star rating of all other funds except for Japan where Nomura provides ratings at the fund level. The "primary share class", as defined by Morningstar, denotes the share class recommended as being the best proxy for the portfolio and in most cases will be the most retail version (based upon annual management charge, minimum investment, currency and other factors). The performance data could have been different if all funds/accounts would have been included. Past performance is not indicative of future results.
• Percentage of mutual fund assets under management in funds ranked in the 1st or 2nd quartile (one, three and five years): All quartile rankings, the assigned peer categories and the asset values used to derive this analysis are sourced from the fund ranking providers mentioned in footnote (b). Quartile rankings are done on the net-of-fee absolute return of each fund. The data providers re-denominate the asset values into U.S. dollars. This % of AUM is based on fund performance and associated peer rankings at the share class level for U.S. domiciled funds, at a "primary share class" level to represent the quartile ranking of the U.K., Luxembourg and Hong Kong funds and at the fund level for all other funds. The "primary share class", as defined by Morningstar, denotes the share class recommended as being the best proxy for the portfolio and in most cases will be the most retail version (based upon annual management charge, minimum investment, currency and other factors). Where peer group rankings given for a fund are in more than one "primary share class" territory both rankings are included to reflect local market competitiveness (applies to "Offshore Territories" and "HK SFC Authorized" funds only). The performance data could have been different if all funds/accounts would have been included. Past performance is not indicative of future results.

Selected metrics

As of or for the year ended December 31, (in millions, except ranking data and ratios)	2015		2014		2013	
% of JPM mutual fund assets rated as 4- or 5-star[(a)]	53	%	52	%	49	%

% of JPM mutual fund assets ranked in 1st or 2nd quartile:(b)				
1 year	62	72	68	
3 years	78	72	68	
5 years	80	76	69	
Selected balance sheet data (period-end)				
Total assets	$131,451	$128,701	$122,414	
Loans(c)	111,007	104,279	95,445	
Core loans	111,007	104,279	95,445	
Deposits	146,766	155,247	146,183	
Equity	9,000	9,000	9,000	
Selected balance sheet data (average)				
Total assets	$129,743	$126,440	$113,198	
Loans	107,418	99,805	86,066	
Core loans	107,418	99,805	86,066	
Deposits	149,525	150,121	139,707	
Equity	9,000	9,000	9,000	
Credit data and quality statistics				
Net charge-offs	$12	$6	$40	
Nonaccrual loans	218	218	167	
Allowance for credit losses:				
Allowance for loan losses	266	271	278	
Allowance for lending-related commitments	5	5	5	
Total allowance for credit losses	271	276	283	
Net charge-off rate	0.01 %	0.01 %	0.05	%
Allowance for loan losses to period-end loans	0.24	0.26	0.29	
Allowance for loan losses to nonaccrual loans	122	124	166	
Nonaccrual loans to period-end loans	0.20	0.21	0.17	

(a) Represents the "overall star rating" derived from Morningstar for the U.S., the U.K., Luxembourg, Hong Kong and Taiwan domiciled funds; and Nomura "star rating" for Japan domiciled funds. Includes only Global Investment Management retail open-ended mutual funds that have a rating. Excludes money market funds, Undiscovered Managers Fund, and Brazil and India domiciled funds.

(b) Quartile ranking sourced from: Lipper for the U.S. and Taiwan domiciled funds; Morningstar for the U.K., Luxembourg and Hong Kong domiciled funds; Nomura for Japan domiciled funds and FundDoctor for South Korea domiciled funds. Includes only Global Investment Management retail open-ended mutual funds that are ranked by the aforementioned sources. Excludes money market funds, Undiscovered Managers Fund, and Brazil and India domiciled funds.

(c) Included $26.6 billion, $22.1 billion and $18.9 billion of prime mortgage loans reported in the Consumer, excluding credit card, loan portfolio at December 31, 2015, 2014 and 2013, respectively.

Management's discussion and analysis

Client assets

2015 compared with 2014

Client assets were $2.4 trillion, a decrease of 2% compared with the prior year. Assets under management were $1.7 trillion, a decrease of 1% from the prior year due to the effect of lower market levels partially offset by net inflows to long-term products.

2014 compared with 2013

Client assets were $2.4 trillion, an increase of 2% compared with the prior year. Excluding the sale of Retirement Plan Services, client assets were up 8% compared with the prior year. Assets under management were $1.7 trillion, an increase of 9% from the prior year due to net inflows to long-term products and the effect of higher market levels.

Client assets

December 31, (in billions)	2015	2014	2013
Assets by asset class			
Liquidity	$464	$461	$451
Fixed income	342	359	330
Equity	353	375	370
Multi-asset and alternatives	564	549	447
Total assets under management	1,723	1,744	1,598
Custody/brokerage/ administration/deposits	627	643	745
Total client assets	$2,350	$2,387	$2,343
Memo:			
Alternatives client assets[(a)]	172	166	158
Assets by client segment			
Private Banking	$437	$428	$361
Institutional	816	827	777
Retail	470	489	460
Total assets under management	$1,723	$1,744	$1,598
Private Banking	$1,050	$1,057	$977
Institutional	824	835	777
Retail	476	495	589
Total client assets	$2,350	$2,387	$2,343

(a) Represents assets under management, as well as client balances in brokerage accounts.

Client assets (continued)

Year ended December 31, (in billions)	2015	2014	2013
Assets under management rollforward			
Beginning balance	$1,744	$1,598	$1,426
Net asset flows:			
Liquidity	(1)	18	(4)
Fixed income	(7)	33	8
Equity	1	5	34
Multi-asset and alternatives	22	42	48
Market/performance/other impacts	(36)	48	86
Ending balance, December 31	$1,723	$1,744	$1,598

Client assets rollforward			
Beginning balance	$2,387	$2,343	$2,095
Net asset flows	27	118	80
Market/performance/other impacts	(64)	(74)	168
Ending balance, December 31	$2,350	$2,387	$2,343

International metrics Year ended December 31, (in billions, except where otherwise noted)	2015	2014	2013
Total net revenue (in millions)[(a)]			
Europe/Middle East/Africa	$1,946	$2,080	$1,881
Asia/Pacific	1,130	1,199	1,133
Latin America/Caribbean	795	841	879
Total international net revenue	3,871	4,120	3,893
North America	8,248	7,908	7,512
Total net revenue	$12,119	$12,028	$11,405
Assets under management			
Europe/Middle East/Africa	$302	$329	$305
Asia/Pacific	123	126	132
Latin America/Caribbean	45	46	47
Total international assets under management	470	501	484
North America	1,253	1,243	1,114
Total assets under management	$1,723	$1,744	$1,598
Client assets			
Europe/Middle East/Africa	$351	$391	$367
Asia/Pacific	173	174	180
Latin America/Caribbean	110	115	117
Total international client assets	634	680	664
North America	1,716	1,707	1,679
Total client assets	$2,350	$2,387	$2,343

(a) Regional revenue is based on the domicile of the client.

CORPORATE

The Corporate segment consists of Treasury and Chief Investment Office ("CIO") and Other Corporate, which includes corporate staff units and expense that is centrally managed. Treasury and CIO are predominantly responsible for measuring, monitoring, reporting and managing the Firm's liquidity, funding and structural interest rate and foreign exchange risks, as well as executing the Firm's capital plan. The major Other Corporate units include Real Estate, Enterprise Technology, Legal, Compliance, Finance, Human Resources, Internal Audit, Risk Management, Oversight & Control, Corporate Responsibility and various Other Corporate groups. Other centrally managed expense includes the Firm's occupancy and pension-related expenses that are subject to allocation to the businesses.

Selected income statement data

Year ended December 31, (in millions, except headcount)	2015	2014	2013
Revenue			
Principal transactions	$41	$1,197	$563
Securities gains	190	71	666
All other income	569	704	1,864
Noninterest revenue	800	1,972	3,093
Net interest income[a]	(533)	(1,960)	(3,115)
Total net revenue	267	12	(22)
Provision for credit losses	(10)	(35)	(28)
Noninterest expense[b]	977	1,159	10,255
Loss before income tax benefit	(700)	(1,112)	(10,249)
Income tax benefit	(3,137)	(1,976)	(3,493)
Net income/(loss)	$2,437	$864	$(6,756)
Total net revenue			
Treasury and CIO	(493)	(1,317)	(2,068)
Other Corporate [c]	760	1,329	2,046
Total net revenue	$267	$12	$(22)
Net income/(loss)			
Treasury and CIO	(235)	(1,165)	(1,454)
Other Corporate [c]	2,672	2,029	(5,302)
Total net income/(loss)	$2,437	$864	$(6,756)
Selected balance sheet data (period-end)			
Total assets (period-end)	$768,204	$931,206	$805,506
Loans	2,187	2,871	4,004
Core loans[d]	2,182	2,848	3,958
Headcount	29,617	26,047	20,717

(a) Included tax-equivalent adjustments, predominantly due to tax-exempt income from municipal bond investments of $839 million, $730 million and $480 million for the years ended December 31, 2015, 2014 and 2013, respectively.

(b) Included legal expense of $832 million, $821 million and $10.2 billion for the years ended December 31, 2015, 2014 and 2013, respectively.

(c) Effective in 2015, the Firm began including the results of Private Equity in the Other Corporate line within the Corporate segment. Prior period amounts have been revised to conform with the current period presentation. The Corporate segment's balance sheets and results of operations were not impacted by this reporting change.

(d) Average core loans were $2.5 billion, $3.3 billion and $5.2 billion for the years ended December 31, 2015, 2014 and 2013, respectively.

2015 compared with 2014

Net income was $2.4 billion, compared with net income of $864 million in the prior year.

Net revenue was $267 million, compared with $12 million in the prior year. The current year included a $514 million benefit from a legal settlement. Treasury and CIO included a benefit of approximately $178 million associated with recognizing the unamortized discount on certain debt securities which were called at par and a $173 million pretax loss primarily related to accelerated amortization of cash flow hedges associated with the exit of certain non-operating deposits. Private Equity gains were $1.2 billion lower compared with the prior year, reflecting lower valuation gains and lower net gains on sales as the Firm exits this non-core business.

Noninterest expense was $977 million, a decrease of $182 million from the prior year which had included a $276 million goodwill impairment related to the sale of a portion of the Private Equity business.

The current year reflected tax benefits of $2.6 billion predominantly from the resolution of various tax audits compared with tax benefits of $1.1 billion in the prior year.

2014 compared with 2013

Net income was $864 million, compared to a net loss of $6.8 billion in the prior year.

Net revenue was $12 million compared to a net loss of $22 million in the prior year. Current year net interest income was a loss of $2 billion compared to a loss of $3.1 billion in the prior year, primarily reflecting higher yields on investment securities. Securities gains were $71 million, compared with $659 million in the prior year, reflecting lower repositioning activity of the investment securities portfolio in the current period.

Private Equity gains were $540 million higher compared with the prior year reflecting higher net gains on sales. Prior year net revenue also included gains of $1.3 billion and $493 million on the sales of Visa shares and One Chase Manhattan Plaza, respectively.

Noninterest expense was $1.2 billion, a decrease of $9.1 billion due to a decrease in reserves for litigation and regulatory proceedings in the prior year partially offset by the impact of a $276 million goodwill impairment related to the sale of a portion of the Private Equity business.

Treasury and CIO overview

Treasury and CIO are predominantly responsible for measuring, monitoring, reporting and managing the Firm's liquidity, funding and structural interest rate and foreign exchange risks, as well as executing the Firm's capital plan. The risks managed by Treasury and CIO arise from the activities undertaken by the Firm's four major reportable business segments to serve their respective client bases, which generate both on- and off-balance sheet assets and liabilities.

Treasury and CIO achieve the Firm's asset-liability management objectives generally by investing in high-quality securities that are managed for the longer-term as part of the Firm's investment securities portfolio. Treasury and CIO also use derivatives to meet the Firm's asset-liability management objectives. For further information on derivatives, see Note 6. The investment securities portfolio primarily consists of U.S. and non-U.S. government securities, agency and nonagency mortgage-backed securities, other asset-backed securities, corporate debt securities and obligations of U.S. states and municipalities. At December 31, 2015, the investment securities portfolio was $287.8 billion, and the average credit rating of the securities comprising the portfolio was AA+ (based upon external ratings where available and where not available, based primarily upon internal ratings that correspond to ratings as defined by S&P and Moody's). See Note 12 for further information on the details of the Firm's investment securities portfolio.

For further information on liquidity and funding risk, see Liquidity Risk Management on pages 159–164. For information on interest rate, foreign exchange and other risks, Treasury and CIO VaR and the Firm's earnings-at-risk, see Market Risk Management on pages 133–139.

Selected income statement and balance sheet data

As of or for the year ended December 31, (in millions)	2015	2014	2013
Securities gains	$190	$71	$659
Investment securities portfolio (average) [a]	314,802	349,285	353,712
Investment securities portfolio (period–end) [b]	287,777	343,146	347,562
Mortgage loans (average)	2,501	3,308	5,145
Mortgage loans (period-end)	2,136	2,834	3,779

(a) Average investment securities included held-to-maturity balances of $50.0 billion and $47.2 billion for the years ended December 31, 2015 and 2014 respectively. The held-to-maturity balance for full year 2013 was not material.

(b) Period-end investment securities included held-to-maturity securities of $49.1 billion, $49.3 billion, $24.0 billion at December 31, 2015, 2014 and 2013, respectively.

Private equity portfolio information[a]

December 31, (in millions)	2015	2014	2013
Carrying value	$2,103	$5,866	$7,868
Cost	3,798	6,281	8,491

(a) For more information on the Firm's methodologies regarding the valuation of the Private Equity portfolio, see Note 3. For information on the sale of a portion of the Private Equity business completed on January 9, 2015, see Note 2.

2015 compared with 2014

The carrying value of the private equity portfolio at December 31, 2015 was $2.1 billion, down from $5.9 billion at December 31, 2014, driven by the sale of a portion of the Private Equity business.

2014 compared with 2013

The carrying value of the private equity portfolio at December 31, 2014 was $5.9 billion, down from $7.9 billion at December 31, 2013. The decrease in the portfolio was predominantly driven by sales of investments, partially offset by unrealized gains.

ENTERPRISE-WIDE RISK MANAGEMENT

Risk is an inherent part of JPMorgan Chase's business activities. When the Firm extends a consumer or wholesale loan, advises customers on their investment decisions, makes markets in securities, or offers other products or services, the Firm takes on some degree of risk. The Firm's overall objective is to manage its businesses, and the associated risks, in a manner that balances serving the interests of its clients, customers and investors and protects the safety and soundness of the Firm.

Firmwide Risk Management is overseen and managed on an enterprise-wide basis. The Firm's approach to risk management covers a broad spectrum of risk areas, such as credit, market, liquidity, model, structural interest rate, principal, country, operational, compliance, legal, capital and reputation risk, with controls and governance established for each area, as appropriate.

The Firm believes that effective risk management requires:

- Acceptance of responsibility, including identification and escalation of risk issues, by all individuals within the Firm;
- Ownership of risk management within each of the lines of business and corporate functions; and
- Firmwide structures for risk governance.

The Firm's Operating Committee, which consists of the Firm's Chief Executive Officer ("CEO"), Chief Risk Officer ("CRO") and other senior executives, is responsible for developing and executing the Firm's risk management framework. The framework is intended to provide controls and ongoing management of key risks inherent in the Firm's business activities and create a culture of transparency, awareness and personal responsibility through reporting, collaboration, discussion, escalation and sharing of information. The Operating Committee is responsible and accountable to the Firm's Board of Directors.

The Firm strives for continual improvement through ongoing employee training and development, as well as talent retention. The Firm follows a disciplined and balanced compensation framework with strong internal governance and independent Board oversight. The impact of risk and control issues are carefully considered in the Firm's performance evaluation and incentive compensation processes. The Firm is also engaged in a number of activities focused on conduct risk and in regularly evaluating its culture with respect to its business principles.

The following sections outline the key risks that are inherent in the Firm’s business activities.

Risk	Definition	Select risk management metrics	Page references
Capital risk	The risk the Firm has an insufficient level and composition of capital to support the Firm’s business activities and associated risks during normal economic environments and stressed conditions.	Risk-based capital ratios; supplementary leverage ratio; stress	149–158
Compliance risk	The risk of failure to comply with applicable laws, rules, and regulations.	Various metrics related to market conduct, Bank Secrecy Act/Anti-Money Laundering (“BSA/AML”), employee compliance, fiduciary, privacy and information risk	147
Country risk	The risk that a sovereign event or action alters the value or terms of contractual obligations of obligors, counterparties and issuers or adversely affects markets related to a particular country.	Default exposure at 0% recovery; stress; risk ratings; ratings based capital limits	140–141
Credit risk	The risk of loss arising from the default of a customer, client or counterparty.	Total exposure; industry, geographic and customer concentrations; risk ratings; delinquencies; loss experience; stress	112–132
Legal risk	The risk of loss or imposition of damages, fines, penalties or other liability arising from failure to comply with a contractual obligation or to comply with laws or regulations to which the Firm is subject.	Not applicable	146
Liquidity risk	The risk that the Firm will be unable to meet its contractual and contingent obligations or that it does not have the appropriate amount, composition and tenor of funding and liquidity to support its assets.	LCR; stress	159–164
Market risk	The risk of loss arising from potential adverse changes in the value of the Firm’s assets and liabilities resulting from changes in market variables such as interest rates, foreign exchange rates, equity prices, commodity prices, implied volatilities or credit spreads.	VaR, stress, sensitivities	133–139
Model risk	The risk of the potential for adverse consequences from decisions based on incorrect or misused model outputs and reports.	Model status, model tier	142
Non-U.S. dollar foreign exchange (“FX”) risk	The risk that changes in foreign exchange rates affect the value of the Firm’s assets or liabilities or future results.	FX net open position (“NOP”)	139
Operational risk	The risk of loss resulting from inadequate or failed processes or systems, human factors, or due to external events that are neither market nor credit-related.	Firm-specific loss experience; industry loss experience; business environment and internal control factors (“BEICF”); key risk indicators; key control indicators; operating metrics	144–146

Principal risk	The risk of an adverse change in the value of privately-held financial assets and instruments, typically representing an ownership or junior capital position that have unique risks due to their illiquidity or for which there is less observable market or valuation data.	Carrying value, stress	143
Reputation risk	The risk that an action, transaction, investment or event will reduce trust in the Firm's integrity or competence by our various constituents, including clients, counterparties, investors, regulators, employees and the broader public.	Not applicable	148
Structural interest rate risk	The risk resulting from the Firm's traditional banking activities (both on- and off-balance sheet positions) arising from the extension of loans and credit facilities, taking deposits and issuing debt (collectively referred to as "non-trading activities"), and also the impact from the CIO investment securities portfolio and other related CIO and Treasury activities.	Earnings-at-risk	138-139

Risk appetite and governance

The Firm's overall tolerance for risk is governed by a "Risk Appetite" framework for measuring and monitoring risk. The framework measures the Firm's capacity to take risk against stated quantitative tolerances and qualitative factors at each of the line of business ("LOB") levels, as well as at the Firmwide level. The framework and tolerances are set and approved by the Firm's CEO, Chief Financial Officer ("CFO"), CRO and Chief Operating Officer ("COO"). LOB-level Risk Appetite parameters and tolerances are set by the respective LOB CEO, CFO and CRO and are approved by the Firm's CEO, CFO, CRO and COO. Quantitative risk tolerances are expressed in terms of tolerance levels for stressed net income, market risk, credit risk, liquidity risk, structural interest rate risk, operational risk and capital. Risk Appetite results are reported quarterly to the Risk Policy Committee of the Board of Directors ("DRPC").

The Firm's CRO is responsible for the overall direction of the Firm's Risk Management functions and is head of the Risk Management Organization, reporting to the Firm's CEO and DRPC. The Risk Management Organization operates independently from the revenue-generating businesses, which enables it to provide credible challenge to the businesses. The leadership team of the Risk Management Organization is aligned to the various LOBs and corporate functions as well as across the Firm for firmwide risk categories (e.g. firmwide market risk, firmwide model risk, firmwide reputation risk, etc.) producing a matrix structure with specific subject matter expertise to manage risks both within the businesses and across the Firm.

The Firm places key reliance on each of the LOBs as the first line of defense in risk governance. The LOBs are accountable for identifying and addressing the risks in their

respective businesses and for operating within a sound control environment.
In addition to the Risk Management Organization, the Firm's control environment also includes firmwide functions like Oversight and Control, Compliance and Internal Audit.
The Firmwide Oversight and Control Group consists of dedicated control officers within each of the lines of business and corporate functions, as well as a central oversight function. The group is charged with enhancing the Firm's control environment by looking within and across the lines of business and corporate functions to identify and remediate control issues. The group enables the Firm to detect control problems more quickly, escalate issues promptly and engage other stakeholders to understand common themes and interdependencies among the various parts of the Firm.
Each line of business is accountable for managing its compliance risk. The Firm's Compliance Organization ("Compliance"), which is independent of the lines of

business, works closely with the Operating Committee and management to provide independent review, monitoring and oversight of business operations with a focus on compliance with the legal and regulatory obligations applicable to the offering of the Firm's products and services to clients and customers.
Internal Audit, a function independent of the businesses, Compliance and the Risk Management Organization, tests and evaluates the Firm's risk governance and management, as well as its internal control processes. This function brings a systematic and disciplined approach to evaluating and improving the effectiveness of the Firm's governance, risk management and internal control processes.

Risk governance structure

The independent status of the Risk Management Organization is supported by a governance structure that provides for escalation of risk issues up to senior management and the Board of Directors.

The chart below illustrates the key senior management level committees in the Firm's risk governance structure. Other committees and forums are in place that are responsible for management and oversight of risk, although they are not shown in the chart below.
The Board of Directors provides oversight of risk principally through the DRPC, Audit Committee and, with respect to compensation and other management-related matters, Compensation & Management Development Committee. Each committee of the Board oversees reputation risk issues within its scope of responsibility.

The Risk Policy Committee of the Board oversees the Firm's global risk management framework and approves the primary risk-management policies of the Firm. The Committee's responsibilities include oversight of management's exercise of its responsibility to assess and manage risks of the Firm, as well as its capital and liquidity planning and analysis. Breaches in risk appetite tolerances, liquidity issues that may have a material adverse impact on the Firm and other significant risk-related matters are escalated to the Committee.

The Audit Committee of the Board assists the Board in its oversight of management's responsibilities to assure that there is an effective system of controls reasonably designed to safeguard the assets and income of the Firm, assure the integrity of the Firm's financial statements and maintain compliance with the Firm's ethical standards, policies, plans and procedures, and with laws and regulations. In addition, the Audit Committee assists the Board in its oversight of the Firm's independent registered public accounting firm's qualifications and independence. The Independent Internal Audit Function at the Firm is headed by the General Auditor, who reports to the Audit Committee.

The Compensation & Management Development Committee assists the Board in its oversight of the Firm's compensation programs and reviews and approves the Firm's overall compensation philosophy, incentive compensation pools, and compensation practices consistent with key business objectives and safety and soundness. The Committee reviews Operating Committee members' performance against their goals, and approves their compensation awards. The Committee also periodically reviews the Firm's diversity programs and management development and succession planning, and provides oversight of the Firm's culture and conduct programs.

Among the Firm's senior management-level committees that are primarily responsible for key risk-related functions are:

The Firmwide Risk Committee ("FRC") is the Firm's highest management-level risk committee. It provides oversight of the risks inherent in the Firm's businesses. The Committee is co-chaired by the Firm's CEO and CRO. Members of the Committee include the Firm's COO, CFO, Treasurer & Chief Investment Officer, and General Counsel, as well as LOB CEOs and CROs, and other senior managers from risk and control functions. This Committee serves as an escalation point for risk topics and issues raised by its members, the Line of Business Risk Committees, Firmwide Control Committee, Firmwide Fiduciary Risk Governance Committee, Firmwide Reputation Risk Governance and regional Risk Committees. The Committee escalates significant issues to the Board of Directors, as appropriate.

The Firmwide Control Committee ("FCC") is a forum for senior management to discuss firmwide operational risks including existing and emerging issues, to monitor operational risk metrics, and to review the execution of the Operational Risk Management Framework ("ORMF"). The FCC is co-chaired by the Chief Control Officer and the Firmwide Risk Executive for Operational Risk Governance. It serves as an escalation point for the line of business, corporate functions and regional Control Committees and escalates significant issues to the FRC, as appropriate.

The Firmwide Fiduciary Risk Governance Committee ("FFRGC") is a forum for risk matters related to the Firm's fiduciary activities. The Committee oversees the firmwide fiduciary risk governance framework, which supports the consistent identification and escalation of fiduciary risk matters by the relevant lines of business or corporate functions responsible for managing fiduciary activities. The Committee escalates significant issues to the FRC and any other committee, as appropriate.

The Firmwide Reputation Risk Governance Group seeks to promote consistent management of reputation risk across the Firm. Its objectives are to increase visibility of reputation risk governance; promote and maintain a globally consistent governance model for reputation risk across lines of business; promote early self-identification of potential reputation risks to the Firm; and provide thought leadership on cross-line-of-business reputation risk issues. Each line of business has a separate reputation risk governance structure which includes, in most cases, one or more dedicated reputation risk committees.

Line of Business and Regional Risk Committees review the ways in which the particular line of business or the business operating in a particular region could be exposed to adverse outcomes with a focus on identifying, accepting, escalating and/or requiring remediation of matters brought to these committees. These committees may escalate to the FRC, as appropriate.

Line of Business, Corporate Function and Regional Control Committees oversee the control environment in the particular line of business or corporate function or the business operating in a particular region. They are responsible for reviewing the data indicating the quality and stability of the processes in a business or function, focusing on those processes with shortcomings and overseeing process remediation. These committees escalate to the FCC, as appropriate.

The Asset Liability Committee (“ALCO”), chaired by the Firm’s Treasurer under the direction of the COO, monitors the Firm’s balance sheet, liquidity risk and structural interest rate risk. ALCO reviews the Firm’s overall structural interest rate risk position, funding requirements and strategy, and securitization programs (and any required liquidity support by the Firm of such programs). ALCO is responsible for reviewing and approving the Firm’s Funds Transfer Pricing Policy (through which lines of business “transfer” interest rate risk to Treasury) and the Firm’s Intercompany Funding and Liquidity Policy. ALCO is also responsible for reviewing the Firm’s Contingency Funding Plan.

The Capital Governance Committee, chaired by the Head of the Regulatory Capital Management Office (under the direction of the Firm’s CFO) is responsible for reviewing the Firm’s Capital Management Policy and the principles underlying capital issuance and distribution. The Committee is also responsible for governing the capital adequacy assessment process, including overall design, assumptions and risk streams, and for ensuring that capital stress test programs are designed to adequately capture the idiosyncratic risks across the Firm’s businesses.

The Firmwide Valuation Governance Forum (“VGF”) is composed of senior finance and risk executives and is responsible for overseeing the management of risks arising from valuation activities conducted across the Firm. The VGF is chaired by the firmwide head of the Valuation Control function (under the direction of the Firm’s CFO), and includes sub-forums covering the Corporate & Investment Bank, Consumer & Community Banking, Commercial Banking, Asset Management and certain corporate functions, including Treasury and Chief Investment Office.

In addition, the JPMorgan Chase Bank, N.A. Board of Directors is responsible for the oversight of management of the Bank. The JPMorgan Chase Bank, N.A. Board accomplishes this function acting directly and through the principal standing committees of the Firm’s Board of Directors. Risk oversight on behalf of JPMorgan Chase Bank N.A. is primarily the responsibility of the DRPC and Audit Committee of the Firm’s Board of Directors and, with respect to compensation and other management-related matters, the Compensation & Management Development Committee of the Firm’s Board of Directors.

Risk measurement

The Firm has a broad spectrum of risk management metrics, as appropriate for each risk category (refer to the table on key risks included on page 108). Additionally, the Firm is exposed to certain potential low-probability, but plausible and material, idiosyncratic risks that are not well-captured by its other existing risk analysis and reporting for credit, market, and other risks. These idiosyncratic risks may arise in a number of ways, such as changes in legislation, an unusual combination of market events, or specific counterparty events. The Firm has a process intended to identify these risks in order to allow the Firm to monitor vulnerabilities that are not adequately covered by its other standard risk measurements.

CREDIT RISK MANAGEMENT

Credit risk is the risk of loss arising from the default of a customer, client or counterparty. The Firm provides credit to a variety of customers, ranging from large corporate and institutional clients to individual consumers and small businesses. In its consumer businesses, the Firm is exposed to credit risk primarily through its residential real estate, credit card, auto, business banking and student lending businesses. Originated mortgage loans are retained in the mortgage portfolio, securitized or sold to U.S. government agencies and U.S. government-sponsored enterprises; other types of consumer loans are typically retained on the balance sheet. In its wholesale businesses, the Firm is exposed to credit risk through its underwriting, lending, market-making, and hedging activities with and for clients and counterparties, as well as through its operating services activities (such as cash management and clearing activities), securities financing activities, investment securities portfolio, and cash placed with banks. A portion of the loans originated or acquired by the Firm's wholesale businesses are generally retained on the balance sheet; the Firm's syndicated loan business distributes a significant percentage of originations into the market and is an important component of portfolio management.

Credit risk management

Credit risk management is an independent risk management function that identifies and monitors credit risk throughout the Firm and defines credit risk policies and procedures. The credit risk function reports to the Firm's CRO. The Firm's credit risk management governance includes the following activities:

- Establishing a comprehensive credit risk policy framework
- Monitoring and managing credit risk across all portfolio segments, including transaction and exposure approval
- Setting industry concentration limits and establishing underwriting guidelines
- Assigning and managing credit authorities in connection with the approval of all credit exposure
- Managing criticized exposures and delinquent loans
- Determining the allowance for credit losses and ensuring appropriate credit risk-based capital management

Risk identification and measurement

The Credit Risk Management function identifies, measures, limits, manages and monitors credit risk across the Firm's businesses. To measure credit risk, the Firm employs several methodologies for estimating the likelihood of obligor or counterparty default. Methodologies for measuring credit risk vary depending on several factors, including type of asset (e.g., consumer versus wholesale), risk measurement parameters (e.g., delinquency status and borrower's credit score versus wholesale risk-rating) and risk management and collection processes (e.g., retail collection center versus centrally managed workout groups). Credit risk measurement is based on the

probability of default of an obligor or counterparty, the loss severity given a default event and the exposure at default. Based on these factors and related market-based inputs, the Firm estimates credit losses for its exposures. Probable credit losses inherent in the consumer and wholesale loan portfolios are reflected in the allowance for loan losses, and probable credit losses inherent in lending-related commitments are reflected in the allowance for lending-related commitments. These losses are estimated using statistical analyses and other factors as described in Note 15. In addition, potential and unexpected credit losses are reflected in the allocation of credit risk capital and represent the potential volatility of actual losses relative to the established allowances for loan losses and lending-related commitments. The analyses for these losses include stress testing considering alternative economic scenarios as described in the Stress testing section below. For further information, see Critical Accounting Estimates used by the Firm on pages 165–169.

The methodologies used to estimate credit losses depend on the characteristics of the credit exposure, as described below.

Scored exposure

The scored portfolio is generally held in CCB and predominantly includes residential real estate loans, credit card loans, certain auto and business banking loans, and student loans. For the scored portfolio, credit loss estimates are based on statistical analysis of credit losses over discrete periods of time. The statistical analysis uses portfolio modeling, credit scoring, and decision-support tools, which consider loan-level factors such as delinquency status, credit scores, collateral values, and other risk factors. Credit loss analyses also consider, as appropriate, uncertainties and other factors, including those related to current macroeconomic and political conditions, the quality of underwriting standards, and other internal and external factors. The factors and analysis are updated on a quarterly basis or more frequently as market conditions dictate.

Risk-rated exposure

Risk-rated portfolios are generally held in CIB, CB and AM, but also include certain business banking and auto dealer loans held in CCB that are risk-rated because they have characteristics similar to commercial loans. For the risk-rated portfolio, credit loss estimates are based on estimates of the probability of default (“PD”) and loss severity given a default. The estimation process begins with risk ratings that are assigned to each loan facility to differentiate risk within the portfolio. These risk ratings are reviewed regularly by Credit Risk Management and revised as needed to reflect the borrower’s current financial position, risk profile and related collateral. The probability of default is the likelihood that a loan will default and not be fully repaid by the borrower. The loss given default (“LGD”) is the estimated loss on the loan that would be realized upon the default of the borrower and takes into consideration collateral and structural support for each credit facility. The probability of default is estimated for each borrower, and a loss given default is estimated for each credit facility. The calculations and assumptions are based on historic experience and management judgment and are reviewed regularly.

Stress testing

Stress testing is important in measuring and managing credit risk in the Firm's credit portfolio. The process assesses the potential impact of alternative economic and business scenarios on estimated credit losses for the Firm. Economic scenarios, and the parameters underlying those scenarios, are defined centrally, are articulated in terms of macroeconomic factors, and applied across the businesses. The stress test results may indicate credit migration, changes in delinquency trends and potential losses in the credit portfolio. In addition to the periodic stress testing processes, management also considers additional stresses outside these scenarios, including industry and country-specific stress scenarios, as necessary. The Firm uses stress testing to inform decisions on setting risk appetite both at a Firm and LOB level, as well as to assess the impact of stress on individual counterparties.

Risk monitoring and management

The Firm has developed policies and practices that are designed to preserve the independence and integrity of the approval and decision-making process of extending credit to ensure credit risks are assessed accurately, approved properly, monitored regularly and managed actively at both the transaction and portfolio levels. The policy framework establishes credit approval authorities, concentration limits, risk-rating methodologies, portfolio review parameters and guidelines for management of distressed exposures. In addition, certain models, assumptions and inputs used in evaluating and monitoring credit risk are independently validated by groups that are separate from the line of businesses.

For consumer credit risk, delinquency and other trends, including any concentrations at the portfolio level, are monitored, as certain of these trends can be modified through changes in underwriting policies and portfolio guidelines. Consumer Risk Management evaluates delinquency and other trends against business expectations, current and forecasted economic conditions, and industry benchmarks. Historical and forecasted trends are incorporated into the modeling of estimated consumer credit losses and are part of the monitoring of the credit risk profile of the portfolio. For further discussion of consumer loans, see Note 14.

Wholesale credit risk is monitored regularly at an aggregate portfolio, industry, and individual client and counterparty level with established concentration limits that are reviewed and revised as deemed appropriate by management, typically on an annual basis. Industry and counterparty limits, as measured in terms of exposure and economic risk appetite, are subject to stress-based loss constraints. In addition, wrong-way risk — the risk that exposure to a counterparty is positively correlated with the impact of a default by the same counterparty, which could cause exposure to increase at the same time as the counterparty's capacity to meet its obligations is decreasing — is actively monitored as this risk could result in greater exposure at default compared with a transaction with another counterparty that does not have this risk.

Management of the Firm's wholesale credit risk exposure is accomplished through a number of means, including:

- Loan underwriting and credit approval process
- Loan syndications and participations
- Loan sales and securitizations
- Credit derivatives
- Master netting agreements
- Collateral and other risk-reduction techniques

In addition to Credit Risk Management, Internal Audit performs periodic exams, as well as continuous reviews, where appropriate, of the Firm's consumer and wholesale portfolios. For risk-rated portfolios, a Credit Review group within Internal Audit is responsible for:

- Independently assessing and validating the changing risk grades assigned to exposures; and
- Evaluating the effectiveness of business units' risk ratings, including the accuracy and consistency of risk grades, the timeliness of risk grade changes and the justification of risk grades in credit memoranda.

Risk reporting

To enable monitoring of credit risk and effective decision-making, aggregate credit exposure, credit quality forecasts, concentration levels and risk profile changes are reported regularly to senior members of Credit Risk Management. Detailed portfolio reporting of industry, customer, product and geographic concentrations occurs monthly, and the appropriateness of the allowance for credit losses is reviewed by senior management at least on a quarterly basis. Through the risk reporting and governance structure, credit risk trends and limit exceptions are provided regularly to, and discussed with, risk committees, senior management and the Board of Directors as appropriate.

Management's discussion and analysis

CREDIT PORTFOLIO

In the following tables, reported loans include loans retained (i.e., held-for-investment); loans held-for-sale (which are carried at the lower of cost or fair value, with valuation changes recorded in noninterest revenue); and certain loans accounted for at fair value. In addition, the Firm records certain loans accounted for at fair value in trading assets. For further information regarding these loans, see Note 3 and Note 4. For additional information on the Firm's loans and derivative receivables, including the Firm's accounting policies, see Note 14 and Note 6, respectively. For further information regarding the credit risk inherent in the Firm's cash placed with banks, investment securities portfolio, and securities financing portfolio, see Note 5, Note 12, and Note 13, respectively.

Effective January 1, 2015, the Firm no longer includes within its disclosure of wholesale lending-related commitments the unused amount of advised uncommitted lines of credit as it is within the Firm's discretion whether or not to make a loan under these lines, and the Firm's approval is generally required prior to funding. Prior period amounts have been revised to conform with the current period presentation.

For discussion of the consumer credit environment and consumer loans, see Consumer Credit Portfolio on pages 115–121 and Note 14. For discussion of wholesale credit environment and wholesale loans, see Wholesale Credit Portfolio on pages 122–129 and Note 14.

Total credit portfolio

December 31,	Credit exposure		Nonperforming[b][c]	
(in millions)	2015	2014	2015	2014
Loans retained	$832,792	$747,508	$6,303	$7,017
Loans held-for-sale	1,646	7,217	101	95
Loans at fair value	2,861	2,611	25	21
Total loans – reported	837,299	757,336	6,429	7,133
Derivative receivables	59,677	78,975	204	275
Receivables from customers and other	13,497	29,080	—	—
Total credit-related assets	910,473	865,391	6,633	7,408
Assets acquired in loan satisfactions				
Real estate owned	NA	NA	347	515
Other	NA	NA	54	44
Total assets acquired in loan satisfactions	NA	NA	401	559
Total assets	910,473	865,391	7,034	7,967
Lending-related commitments	940,395	950,997	193	103
Total credit portfolio	$1,850,868	$1,816,388	$7,227	$8,070
Credit derivatives used in credit portfolio management activities[a]	$(20,681)	$(26,703)	$(9)	$—
Liquid securities and other cash collateral held against derivatives	(16,580)	(19,604)	NA	NA

Year ended December 31, (in millions, except ratios)	2015	2014
Net charge-offs	$4,086	$4,759
Average retained loans		
Loans – reported	780,293	729,876
Loans – reported, excluding residential real estate PCI loans	736,543	679,869
Net charge-off rates		
Loans – reported	0.52%	0.65%
Loans – reported, excluding PCI	0.55	0.70

(a) Represents the net notional amount of protection purchased and sold through credit derivatives used to manage both performing and nonperforming wholesale credit exposures; these derivatives do not qualify for hedge accounting under U.S. GAAP. For additional information, see Credit derivatives on page 129 and Note 6.

(b) Excludes PCI loans. The Firm is recognizing interest income on each pool of PCI loans as each of the pools is performing.

(c) At December 31, 2015 and 2014, nonperforming assets excluded: (1) mortgage loans insured by U.S. government agencies of $6.3 billion and $7.8 billion, respectively, that are 90 or more days past due; (2) student loans insured by U.S. government agencies under the FFELP of $290 million and $367 million, respectively, that are 90 or more days past due; and (3) REO insured by U.S. government agencies of $343 million and $462 million, respectively. These amounts have been excluded based upon the government guarantee. In addition, the Firm’s policy is generally to exempt credit card loans from being placed on nonaccrual status as permitted by regulatory guidance issued by the Federal Financial Institutions Examination Council (“FFIEC”).

CONSUMER CREDIT PORTFOLIO

The Firm's consumer portfolio consists primarily of residential real estate loans, credit card loans, auto loans, business banking loans, and student loans. The Firm's focus is on serving the prime segment of the consumer credit market. The credit performance of the consumer portfolio continues to benefit from discipline in credit underwriting as well as improvement in the economy driven by increasing home prices and lower unemployment. Both early-stage

delinquencies (30–89 days delinquent) and late-stage delinquencies (150+ days delinquent) for residential real estate, excluding government guaranteed loans, declined from December 31, 2014 levels. The Credit Card 30+ day delinquency rate and the net charge-off rate remain near historic lows. For further information on consumer loans, see Note 14.

The following table presents consumer credit-related information with respect to the credit portfolio held by CCB, prime mortgage and home equity loans held by AM, and prime mortgage loans held by Corporate. For further information about the Firm's nonaccrual and charge-off accounting policies, see Note 14.

Consumer credit portfolio

As of or for the year ended December 31, (in millions, except ratios)	Credit exposure		Nonaccrual loans[g][h]		Net charge-offs/(recoveries)[i]		Average annual net charge-off/(recovery) rate[i][j]	
	2015	2014	2015	2014	2015	2014	2015	2014
Consumer, excluding credit card								
Loans, excluding PCI loans and loans held-for-sale								
Home equity – senior lien	$14,848	$16,367	$867	$938	$ 69	$ 82	0.43 %	0.50 %
Home equity – junior lien	30,711	36,375	1,324	1,590	222	391	0.67	1.03
Prime mortgage, including option ARMs	162,549	104,921	1,752	2,190	49	39	0.04	0.04
Subprime mortgage	3,690	5,056	751	1,036	(53)	(27)	(1.22)	(0.43)
Auto[a]	60,255	54,536	116	115	214	181	0.38	0.34
Business banking	21,208	20,058	263	279	253	305	1.23	1.58
Student and other	10,096	10,970	242	270	200	347	1.89	3.07
Total loans, excluding PCI loans and loans held-for-sale	303,357	248,283	5,315	6,418	954	1,318	0.35	0.55
Loans – PCI								
Home equity	14,989	17,095	—	NA	—	NA	—	NA
Prime mortgage	8,893	10,220	—	NA	—	NA	—	NA
Subprime mortgage	3,263	3,673	—	NA	—	NA	—	NA
Option ARMs[b]	13,853	15,708	—	NA	—	NA	—	NA
Total loans – PCI	40,998	46,696	—	NA	—	NA	—	NA
Total loans – retained	344,355	294,979	5,315	6,418	954	1,318	0.30	0.46
Loans held-for-sale	466 [f]	395 [f]	98	91	—	—	—	—
Total consumer, excluding credit card loans	344,821	295,374	5,413	6,509	954	1,318	0.30	0.46
Lending-related commitments[c]	58,478	58,153						
Receivables from customers[d]	125	108						

Total consumer exposure, excluding credit card	403,424	353,635						
Credit Card								
Loans retained[(e)]	131,387	128,027	—	—	3,122	3,429	2.51	2.75
Loans held-for-sale	76	3,021	—	—	—	—	—	—
Total credit card loans	131,463	131,048	—	—	3,122	3,429	2.51	2.75
Lending-related commitments[(c)]	515,518	525,963						
Total credit card exposure	646,981	657,011						
Total consumer credit portfolio	$1,050,405	$1,010,646	$5,413	$6,509	$ 4,076	$ 4,747	0.92 %	1.15 %
Memo: Total consumer credit portfolio, excluding PCI	$1,009,407	$963,950	$5,413	$6,509	$ 4,076	$ 4,747	1.02 %	1.30 %

(a) At December 31, 2015 and 2014, excluded operating lease assets of $9.2 billion and $6.7 billion, respectively.

(b) At December 31, 2015 and 2014, approximately 64% and 57% of the PCI option ARMs portfolio has been modified into fixed-rate, fully amortizing loans, respectively.

(c) Credit card and home equity lending-related commitments represent the total available lines of credit for these products. The Firm has not experienced, and does not anticipate, that all available lines of credit would be used at the same time. For credit card and home equity commitments (if certain conditions are met), the Firm can reduce or cancel these lines of credit by providing the borrower notice or, in some cases as permitted by law, without notice.

(d) Receivables from customers represent margin loans to retail brokerage customers, and are included in Accrued interest and accounts receivable on the Consolidated balance sheets.

(e) Includes accrued interest and fees net of an allowance for the uncollectible portion of accrued interest and fee income.

(f) Predominantly represents prime mortgage loans held-for-sale.

(g) At December 31, 2015 and 2014, nonaccrual loans excluded: (1) mortgage loans insured by U.S. government agencies of \$6.3 billion and \$7.8 billion, respectively, that are 90 or more days past due; and (2) student loans insured by U.S. government agencies under the FFELP of \$290 million and \$367 million, respectively, that are 90 or more days past due. These amounts have been excluded from nonaccrual loans based upon the government guarantee. In addition, credit card loans are generally exempt from being placed on nonaccrual status, as permitted by regulatory guidance.

(h) Excludes PCI loans. The Firm is recognizing interest income on each pool of PCI loans as each of the pools is performing.

(i) Net charge-offs and net charge-off rates excluded \$208 million and \$533 million of write-offs of prime mortgages in the PCI portfolio for the years ended December 31, 2015 and 2014. These write-offs decreased the allowance for loan losses for PCI loans. See Allowance for Credit Losses on pages 130–132 for further details.

(j) Average consumer loans held-for-sale were \$2.1 billion and \$917 million, respectively, for the years ended December 31, 2015 and 2014. These amounts were excluded when calculating net charge-off rates.

Consumer, excluding credit card

Portfolio analysis

Consumer loan balances increased during the year ended December 31, 2015, predominantly due to originations of high-quality prime mortgage loans that have been retained, partially offset by paydowns and the charge-off or liquidation of delinquent loans. Credit performance has continued to improve across most portfolios as the economy strengthened and home prices increased.

PCI loans are excluded from the following discussions of individual loan products and are addressed separately below. For further information about the Firm's consumer portfolio, including information about delinquencies, loan modifications and other credit quality indicators, see
Note 14.

Home equity: The home equity portfolio declined from December 31, 2014 primarily reflecting loan paydowns and charge-offs. Both early-stage and late-stage delinquencies declined from December 31, 2014. Net charge-offs for both senior and junior lien home equity loans at December 31, 2015, declined when compared with the prior year as a result of improvement in home prices and delinquencies, but charge-offs remain elevated compared with pre-recessionary levels.

At December 31, 2015, approximately 15% of the Firm's home equity portfolio consists of home equity loans ("HELOANs") and the remainder consists of home equity lines of credit ("HELOCs"). HELOANs are generally fixed-rate, closed-end, amortizing loans, with terms ranging from 3–30 years. Approximately 60% of the HELOANs are senior lien loans and the remainder are junior lien loans. In general, HELOCs originated by the Firm are revolving loans for a 10-year period, after which time the HELOC recasts into a loan with a 20-year amortization period. At the time of origination, the borrower typically selects one of two minimum payment options that will generally remain in effect during the revolving period: a monthly payment of 1% of the outstanding balance, or interest-only payments based on a variable index (typically Prime). HELOCs originated by Washington Mutual were generally revolving loans for a 10-year period, after which time the HELOC converts to an interest-only loan with a balloon payment at the end of the loan's term.

The unpaid principal balance of HELOCs outstanding was \$41 billion at December 31, 2015. Since January 1, 2014, approximately \$8 billion of HELOCs have recast from interest-only to fully amortizing payments; based upon contractual terms, approximately \$19 billion is scheduled to recast in the future, consisting of \$7 billion in 2016, \$6 billion in 2017 and \$6 billion in 2018 and beyond. However, of the total \$19 billion scheduled to recast in the future, \$13 billion is expected to actually recast; and the remaining \$6 billion represents loans to borrowers who are expected to pre-pay or loans that are likely to charge-off prior to recast. The Firm has considered this payment recast risk in its allowance for loan losses based upon the estimated amount of payment shock (i.e., the excess of the fully-amortizing payment over the interest-only payment in effect prior to recast) expected to occur at the payment recast date, along with the corresponding estimated probability of default and loss severity assumptions. Certain factors, such as future developments in both unemployment rates and home prices, could have a significant impact on the performance of these loans.

The Firm manages the risk of HELOCs during their revolving period by closing or reducing the undrawn line to the extent permitted by law when borrowers are exhibiting a material deterioration in their credit risk profile. The Firm will continue to evaluate both the near-term and longer-term repricing and recast risks inherent in its HELOC portfolio to ensure that changes in the Firm’s estimate of incurred losses are appropriately considered in the allowance for loan losses and that the Firm’s account management practices are appropriate given the portfolio’s risk profile.

High-risk seconds are junior lien loans where the borrower has a senior lien loan that is either delinquent or has been modified. Such loans are considered to pose a higher risk of default than junior lien loans for which the senior lien loan is neither delinquent nor modified. The Firm estimates the balance of its total exposure to high-risk seconds on a quarterly basis using internal data and loan level credit bureau data (which typically provides the delinquency status of the senior lien loan). The estimated balance of these high-risk seconds may vary from quarter to quarter for reasons such as the movement of related senior lien loans into and out of the 30+ day delinquency bucket.

Current high-risk seconds		
December 31, (in billions)	2015	2014
Junior liens subordinate to:		
Modified current senior lien	$0.6	$0.7
Senior lien 30 – 89 days delinquent	0.4	0.5
Senior lien 90 days or more delinquent[(a)]	0.4	0.6
Total current high-risk seconds	$1.4	$1.8

(a) Junior liens subordinate to senior liens that are 90 days or more past due are classified as nonaccrual loans. At December 31, 2015 and 2014, excluded approximately $25 million and $50 million, respectively, of junior liens that are performing but not current, which were placed on nonaccrual in accordance with the regulatory guidance.

Of the estimated $1.4 billion of current high-risk junior liens at December 31, 2015, the Firm owns approximately 10% and services approximately 25% of the related senior lien loans to the same borrowers. The increased probability of default associated with these higher-risk junior lien loans was considered in estimating the allowance for loan losses.

Mortgage: Prime mortgages, including option ARMs and loans held-for-sale, increased from December 31, 2014 due to originations of high-quality prime mortgage loans that have been retained partially offset by paydowns, the run-off of option ARM loans and the charge-off or liquidation of delinquent loans. High-quality loan originations for the year ending December 31, 2015 included both jumbo and conforming loans, primarily consisting of fixed interest rate loans. Excluding loans insured by U.S. government agencies, both early-stage and late-stage delinquencies declined from December 31, 2014. Nonaccrual loans decreased from the prior year but remain elevated primarily as a result of loss mitigation activities. Net charge-offs remain low, reflecting continued improvement in home prices and delinquencies.

At December 31, 2015 and 2014, the Firm's prime mortgage portfolio included $11.1 billion and $12.4 billion, respectively, of mortgage loans insured and/or guaranteed by U.S. government agencies, of which $8.4 billion and $9.7 billion, respectively, were 30 days or more past due (of these past due loans, $6.3 billion and $7.8 billion, respectively, were 90 days or more past due). In 2014, the Firm entered into a settlement regarding loans insured under federal mortgage insurance programs overseen by the Federal Housing Administration ("FHA"), the U.S. Department of Housing and Urban Development ("HUD"), and the U.S. Department of Veterans Affairs ("VA"); the Firm will continue to monitor exposure on future claim payments for government insured loans, but any financial impact related to exposure on future claims is not expected to be significant and was considered in estimating the allowance for loan losses.

At December 31, 2015 and 2014, the Firm's prime mortgage portfolio included $17.7 billion and $16.3 billion, respectively, of interest-only loans, which represented 11% and 15%, respectively, of the prime mortgage portfolio. These loans have an interest-only payment period generally followed by an adjustable-rate or fixed-rate fully amortizing payment period to maturity and are typically originated as higher-balance loans to higher-income borrowers. To date, losses on this portfolio generally have been consistent with the broader prime mortgage portfolio and the Firm's expectations. The Firm continues to monitor the risks associated with these loans.

Subprime mortgages continued to decrease due to portfolio runoff. Early-stage and late-stage delinquencies have improved from December 31, 2014. Net charge-offs continued to improve as a result of improvement in home prices and delinquencies.

Auto: Auto loans increased from December 31, 2014, as new originations outpaced paydowns and payoffs. Nonaccrual loans were stable compared with December 31, 2014. Net charge-offs for the year ended December 31, 2015 increased compared with the prior year, as a result of higher loan balances and a moderate increase in loss severity. The auto loan portfolio predominantly consists of prime-quality credits.

Business banking: Business banking loans increased from December 31, 2014 due to an increase in loan originations. Nonaccrual loans declined from December 31, 2014 and net charge-offs for the year ended December 31, 2015 decreased from the prior year due to continued discipline in credit underwriting.

Student and other: Student and other loans decreased from December 31, 2014 due primarily to the run-off of the student loan portfolio as the Firm ceased originations of student loans during the fourth quarter of 2013. Nonaccrual loans and net charge-offs also declined as a result of the run-off of the student loan portfolio.
Purchased credit-impaired loans: PCI loans acquired in the Washington Mutual transaction decreased as the portfolio continues to run off.
As of December 31, 2015, approximately 14% of the option ARM PCI loans were delinquent and approximately 64% of the portfolio has been modified into fixed-rate, fully amortizing loans. Substantially all of the remaining loans are making amortizing payments, although such payments are not necessarily fully amortizing. This latter group of loans is subject to the risk of payment shock due to future payment recast. Default rates generally increase on option ARM loans when payment recast results in a payment increase. The expected increase in default rates is considered in the Firm's quarterly impairment assessment.

The following table provides a summary of lifetime principal loss estimates included in either the nonaccretable difference or the allowance for loan losses.

Summary of lifetime principal loss estimates

December 31, (in billions)	Lifetime loss estimates[(a)]		LTD liquidation losses[(b)]	
	2015	2014	2015	2014
Home equity	$14.5	$14.6	$12.7	$12.4
Prime mortgage	4.0	3.8	3.7	3.5
Subprime mortgage	3.3	3.3	3.0	2.8
Option ARMs	10.0	9.9	9.5	9.3
Total	$31.8	$31.6	$28.9	$28.0

(a) Includes the original nonaccretable difference established in purchase accounting of $30.5 billion for principal losses plus additional principal losses recognized subsequent to acquisition through the provision and allowance for loan losses. The remaining nonaccretable difference for principal losses was $1.5 billion and $2.3 billion at December 31, 2015 and 2014, respectively.

(b) Life-to-date ("LTD") liquidation losses represent both realization of loss upon loan resolution and any principal forgiven upon modification.

For further information on the Firm's PCI loans, including write-offs, see Note 14.

Geographic composition of residential real estate loans

At December 31, 2015, $123.0 billion, or 61% of total retained residential real estate loan portfolio, excluding mortgage loans insured by U.S. government agencies and PCI loans, were concentrated in California, New York, Illinois, Texas and Florida, compared with $94.3 billion, or 63%, at December 31, 2014. California had the greatest concentration of retained residential loans with 28% at December 31, 2015, compared with 26% at December 31, 2014. The unpaid principal balance of PCI loans concentrated in these five states represented 74% of total PCI loans at both December 31, 2015, and December 31, 2014. For further information on the geographic composition of the Firm's residential real estate loans, see Note 14.

Current estimated loan-to-values ("LTVs") of residential real estate loans

The current estimated average LTV ratio for residential real estate loans retained, excluding mortgage loans insured by U.S. government agencies and PCI loans, was 59% at both December 31, 2015 and 2014.

Although home prices continue to recover, the decline in
home prices since 2007 has had a significant impact on the collateral values underlying the Firm's residential real estate loan portfolio. In general, the delinquency rate for loans with high LTV ratios is greater than the delinquency rate for loans in which the borrower has greater equity in the collateral. While a large portion of the loans with current estimated LTV ratios greater than 100% continue to pay and are current, the continued willingness and ability of these borrowers to pay remains a risk.

The following table presents the current estimated LTV ratios for PCI loans, as well as the ratios of the carrying value of the underlying loans to the current estimated collateral value. Because such loans were initially measured at fair value, the ratios of the carrying value to the current estimated collateral value will be lower than the current estimated LTV ratios, which are based on the unpaid principal balances. The estimated collateral values used to calculate these ratios do not represent actual appraised loan-level collateral values; as such, the resulting ratios are necessarily imprecise and should therefore be viewed as estimates.

LTV ratios and ratios of carrying values to current estimated collateral values – PCI loans

December 31, (in millions, except ratios)	2015 Unpaid principal balance	2015 Current estimated LTV ratio[(a)(b)]	2015 Net carrying value[(d)]	2015 Ratio of net carrying value to current estimated collateral value[(b)(d)]	2014 Unpaid principal balance	2014 Current estimated LTV ratio[(a)(b)]	2014 Net carrying value[(d)]	2014 Ratio of net carrying value to current estimated collateral value[(b)(d)]
Home equity	$15,342	73 %[(c)]	$13,281	68 %[(e)]	$17,740	78 %[(c)]	$15,337	73 %[(e)]
Prime mortgage	8,919	66	7,908	58	10,249	71	9,027	63
Subprime mortgage	4,051	73	3,263	59	4,652	79	3,493	59
Option ARMs	14,353	64	13,804	62	16,496	69	15,514	65

(a) Represents the aggregate unpaid principal balance of loans divided by the estimated current property value. Current property values are estimated at least quarterly based on home valuation models that utilize nationally recognized home price index valuation estimates; such models incorporate actual data to the extent available and forecasted data where actual data is not available.

(b) Effective December 31, 2015, the current estimated LTV ratios and the ratios of net carrying value to current estimated collateral value reflect updates to the nationally recognized home price index valuation estimates incorporated into the Firm's home valuation models. The prior period ratios have been revised to conform with these updates in the home price index.

(c) Represents current estimated combined LTV for junior home equity liens, which considers all available lien positions, as well as unused lines, related to the property. All other products are presented without consideration of subordinate liens on the property.

(d) Net carrying value includes the effect of fair value adjustments that were applied to the consumer PCI portfolio at the date of acquisition and is also net of the allowance for loan losses at December 31, 2015 and 2014 of $985 million and $1.2 billion for prime mortgage, $49 million and $194 million for option ARMs, $1.7 billion and $1.8 billion for home equity, respectively, and $180 million for subprime mortgage at December 31, 2014. There was no allowance for loan losses for subprime mortgage at December 31, 2015.

(e) The current period ratio has been updated to include the effect of any outstanding senior lien related to a property for which the Firm holds the junior home equity lien. The prior period ratio has been revised to conform with the current presentation.

The current estimated average LTV ratios were 65% and 78% for California and Florida PCI loans, respectively, at December 31, 2015, compared with 71% and 85%, respectively, at December 31, 2014. Average LTV ratios have declined consistent with recent improvements in home prices as well as a result of loan pay downs. Although home prices have improved, home prices in most areas of California and Florida are still lower than at the peak of the housing market; this continues to negatively affect current estimated average LTV ratios and the ratio of net carrying value to current estimated collateral value for loans in the PCI portfolio. Of the total PCI portfolio, 6% of the loans had a current estimated LTV ratio greater than 100%, and 1% had a current LTV ratio of greater than 125% at December 31, 2015, compared with 10% and 2%, respectively, at December 31, 2014.

While the current estimated collateral value is greater than the net carrying value of PCI loans, the ultimate performance of this portfolio is highly dependent on borrowers' behavior and ongoing ability and willingness to continue to make payments on homes with negative equity, as well as on the cost of alternative housing.

For further information on current estimated LTVs of residential real estate loans, see Note 14.

Loan modification activities – residential real estate loans

The performance of modified loans generally differs by product type due to differences in both the credit quality and the types of modifications provided. Performance

metrics for modifications to the residential real estate portfolio, excluding PCI loans, that have been seasoned more than six months show weighted-average redefault rates of 20% for senior lien home equity, 22% for junior lien home equity, 17% for prime mortgages including option ARMs, and 29% for subprime mortgages. The cumulative performance metrics for modifications to the PCI residential real estate portfolio that have been seasoned more than six months show weighted average redefault rates of 20% for home equity, 19% for prime mortgages, 16% for option ARMs and 33% for subprime mortgages. The favorable performance of the PCI option ARM modifications is the result of a targeted proactive program which fixed the borrower's payment to the amount at the point of modification. The cumulative redefault rates reflect the performance of modifications completed under both the U.S. Government's Home Affordable Modification Program ("HAMP") and the Firm's proprietary modification programs (primarily the Firm's modification program that was modeled after HAMP) from October 1, 2009, through December 31, 2015.
Certain loans that were modified under HAMP and the Firm's proprietary modification programs have interest rate reset provisions ("step-rate modifications"). Interest rates on these loans generally began to increase in 2014 by 1% per year and will continue to do so, until the rate reaches a specified cap, typically at a prevailing market interest rate for a fixed-rate loan as of the modification date. The

carrying value of non-PCI loans modified in step-rate modifications was $4 billion at December 31, 2015, with $447 million that experienced the initial interest rate increase in 2015 and $1 billion that is scheduled to experience the initial interest rate increase in each of 2016 and 2017. The unpaid principal balance of PCI loans modified in step-rate modifications was $10 billion at December 31, 2015, with $1 billion that experienced the initial interest rate increase in 2015, and $3 billion and $2 billion scheduled to experience the initial interest rate increase in 2016 and 2017, respectively. The Firm continues to monitor this risk exposure to ensure that it is appropriately considered in the allowance for loan losses.

The following table presents information as of December 31, 2015 and 2014, relating to modified retained residential real estate loans for which concessions have been granted to borrowers experiencing financial difficulty. Modifications of PCI loans continue to be accounted for and reported as PCI loans, and the impact of the modification is incorporated into the Firm's quarterly assessment of estimated future cash flows. Modifications of consumer loans other than PCI loans are generally accounted for and reported as TDRs. For further information on modifications for the years ended December 31, 2015 and 2014, see Note 14.

Modified residential real estate loans

	2015		2014	
December 31, (in millions)	Retained loans	Nonaccrual retained loans[d]	Retained loans	Nonaccrual retained loans[d]
Modified residential real estate loans, excluding PCI loans[a][b]				
Home equity – senior lien	$1,048	$581	$1,101	$628
Home equity – junior lien	1,310	639	1,304	632
Prime mortgage, including option ARMs	4,826	1,287	6,145	1,559
Subprime mortgage	1,864	670	2,878	931
Total modified residential real estate loans, excluding PCI loans	$9,048	$3,177	$11,428	$3,750
Modified PCI loans[c]				
Home equity	$2,526	NA	$2,580	NA
Prime mortgage	5,686	NA	6,309	NA
Subprime mortgage	3,242	NA	3,647	NA
Option ARMs	10,427	NA	11,711	NA
Total modified PCI loans	$21,881	NA	$24,247	NA

(a) Amounts represent the carrying value of modified residential real estate loans.

(b) At December 31, 2015 and 2014, $3.8 billion and $4.9 billion, respectively, of loans modified subsequent to repurchase from Ginnie Mae in accordance with the standards of the appropriate government agency (i.e., FHA, VA, RHS) are not included in the table above. When such loans perform subsequent to modification in accordance with Ginnie Mae guidelines, they are generally sold back into Ginnie Mae loan pools. Modified loans that do not re-perform become subject to foreclosure. For additional information about sales of loans in securitization transactions with Ginnie Mae, see Note 16.

(c) Amounts represent the unpaid principal balance of modified PCI loans.

(d) As of December 31, 2015 and 2014, nonaccrual loans included $2.5 billion and $2.9 billion, respectively, of TDRs for which the borrowers were less than 90 days past due. For additional information about loans modified in a TDR that are on nonaccrual status, see Note 14.

Nonperforming assets

The following table presents information as of December 31, 2015 and 2014, about consumer, excluding credit card, nonperforming assets.

Nonperforming assets[a]

December 31, (in millions)	2015	2014
Nonaccrual loans[b]		

Residential real estate	$4,792	$5,845
Other consumer	621	664
Total nonaccrual loans	5,413	6,509
Assets acquired in loan satisfactions		
Real estate owned	277	437
Other	48	36
Total assets acquired in loan satisfactions	325	473
Total nonperforming assets	$5,738	$6,982

(a) At December 31, 2015 and 2014, nonperforming assets excluded: (1) mortgage loans insured by U.S. government agencies of $6.3 billion and $7.8 billion, respectively, that are 90 or more days past due; (2) student loans insured by U.S. government agencies under the FFELP of $290 million and $367 million, respectively, that are 90 or more days past due; and (3) real estate owned insured by U.S. government agencies of $343 million and $462 million, respectively. These amounts have been excluded based upon the government guarantee.

(b) Excludes PCI loans that were acquired as part of the Washington Mutual transaction, which are accounted for on a pool basis. Since each pool is accounted for as a single asset with a single composite interest rate and an aggregate expectation of cash flows, the past-due status of the pools, or that of individual loans within the pools, is not meaningful. Because the Firm is recognizing interest income on each pool of loans, each pool is considered to be performing.

Nonaccrual loans in the residential real estate portfolio totaled $4.8 billion and $5.8 billion at December 31, 2015, and 2014, respectively, of which 31% and 32%, respectively, were greater than 150 days past due. In the aggregate, the unpaid principal balance of residential real estate loans greater than 150 days past due was charged down by approximately 44% and 50% to the estimated net realizable value of the collateral at December 31, 2015 and 2014, respectively.

Active and suspended foreclosure: For information on loans that were in the process of active or suspended foreclosure, see Note 14.

Nonaccrual loans: The following table presents changes in the consumer, excluding credit card, nonaccrual loans for the years ended December 31, 2015 and 2014.

Nonaccrual loans Year ended December 31, (in millions)	2015	2014
Beginning balance	$6,509	$7,496
Additions	3,662	4,905
Reductions:		
Principal payments and other[(a)]	1,668	1,859
Charge-offs	800	1,306
Returned to performing status	1,725	2,083
Foreclosures and other liquidations	565	644
Total reductions	4,758	5,892
Net additions/(reductions)	(1,096)	(987)
Ending balance	$5,413	$6,509

(a) Other reductions includes loan sales.

Credit Card

Total credit card loans increased from December 31, 2014 due to higher new account originations and increased credit card sales volume partially offset by sales of non-core loans and the transfer of commercial card loans to the CIB. The 30+ day delinquency rate decreased to 1.43% at December 31, 2015, from 1.44% at December 31, 2014. For the years ended December 31, 2015 and 2014, the net charge-off rates were 2.51% and 2.75%, respectively. The Credit Card 30+ day delinquency rate and net charge-off rate remain near historic lows. Charge-offs have improved compared to a year ago due to continued discipline in credit underwriting as well as improvement in the economy driven by lower unemployment. The credit card portfolio continues to reflect a well-seasoned, largely rewards-based portfolio that has good U.S. geographic diversification.

Loans outstanding in the top five states of California, Texas, New York, Florida and Illinois consisted of $57.5 billion in receivables, or 44% of the retained loan portfolio, at December 31, 2015, compared with $54.9 billion, or 43%, at December 31, 2014. The greatest geographic concentration of credit card retained loans is in California, which represented 14% of total retained loans at both December 31, 2015 and 2014, respectively. For further information on the geographic composition of the Firm’s credit card loans, see Note 14.

Modifications of credit card loans

At December 31, 2015 and 2014, the Firm had $1.5 billion and $2.0 billion, respectively, of credit card loans outstanding that have been modified in TDRs. These balances included both credit card loans with modified payment terms and credit card loans that reverted back to their pre-modification payment terms because the cardholder did not comply with the modified payment terms. The decrease in modified credit card loans outstanding from December 31, 2014, was attributable to a reduction in new modifications as well as ongoing payments and charge-offs on previously modified credit card loans.

Consistent with the Firm’s policy, all credit card loans typically remain on accrual status until charged off. However, the Firm establishes an allowance, which is offset against loans and charged to interest income, for the estimated uncollectible portion of accrued interest and fee income.

For additional information about loan modification programs to borrowers, see Note 14.

WHOLESALE CREDIT PORTFOLIO

The Firm's wholesale businesses are exposed to credit risk through underwriting, lending, market-making, and hedging activities with and for clients and counterparties, as well as through various operating services such as cash management and clearing activities. A portion of the loans originated or acquired by the Firm's wholesale businesses is generally retained on the balance sheet. The Firm distributes a significant percentage of the loans it originates into the market as part of its syndicated loan business and to manage portfolio concentrations and credit risk.

The wholesale credit portfolio, excluding Oil & Gas, continued to be generally stable throughout 2015, characterized by low levels of criticized exposure, nonaccrual loans and charge-offs. Growth in loans retained was driven by increased client activity, notably in commercial real estate. Discipline in underwriting across all areas of lending continues to remain a key point of focus. The wholesale portfolio is actively managed, in part by conducting ongoing, in-depth reviews of client credit quality and transaction structure, inclusive of collateral where applicable; and of industry, product and client concentrations.

Wholesale credit portfolio

December 31,	Credit exposure		Nonperforming[c]	
(in millions)	2015	2014	2015	2014
Loans retained	$357,050	$324,502	$988	$599
Loans held-for-sale	1,104	3,801	3	4
Loans at fair value	2,861	2,611	25	21
Loans – reported	361,015	330,914	1,016	624
Derivative receivables	59,677	78,975	204	275
Receivables from customers and other[a]	13,372	28,972	—	—
Total wholesale credit-related assets	434,064	438,861	1,220	899
Lending-related commitments	366,399	366,881	193	103
Total wholesale credit exposure	$800,463	$805,742	$1,413	$1,002
Credit derivatives used in credit portfolio management activities[b]	$(20,681)	$(26,703)	$(9)	$—
Liquid securities and other cash collateral held against derivatives	(16,580)	(19,604)	NA	NA

(a) Receivables from customers and other include $13.3 billion and $28.8 billion of margin loans at December 31, 2015 and 2014, respectively, to prime and retail brokerage customers; these are classified in accrued interest and accounts receivable on the Consolidated balance sheets.

(b) Represents the net notional amount of protection purchased and sold through credit derivatives used to manage both performing and nonperforming wholesale credit exposures; these derivatives do not qualify for hedge accounting under U.S. GAAP. For additional information, see Credit derivatives on page 129, and Note 6.

(c) Excludes assets acquired in loan satisfactions.

The following tables present the maturity and ratings profiles of the wholesale credit portfolio as of December 31, 2015 and 2014. The ratings scale is based on the Firm's internal risk ratings, which generally correspond to the ratings as defined by S&P and Moody's. For additional information on wholesale loan portfolio risk ratings, see Note 14.

Wholesale credit exposure – maturity and ratings profile

December 31, 2015 (in millions, except ratios)	Maturity profile[e] Due in 1 year or less	Due after 1 year through 5 years	Due after 5 years	Total	Ratings profile Investment-grade AAA/Aaa to BBB-/Baa3	Noninvestment-grade BB+/Ba1 & below	Total	Total % of IG
Loans retained	$110,348	$155,902	$90,800	$357,050	$267,736	$ 89,314	$357,050	75 %
Derivative receivables				59,677			59,677	
Less: Liquid securities and other cash collateral held against derivatives				(16,580)			(16,580)	
Total derivative receivables, net of all collateral	11,399	12,836	18,862	43,097	34,773	8,324	43,097	81
Lending-related commitments	105,514	251,042	9,843	366,399	267,922	98,477	366,399	73
Subtotal	227,261	419,780	119,505	766,546	570,431	196,115	766,546	74
Loans held-for-sale and loans at fair value[a]				3,965			3,965	
Receivables from customers and other				13,372			13,372	
Total exposure – net of liquid securities and other cash collateral held against derivatives				$783,883			$783,883	
Credit derivatives used in credit portfolio management activities by reference entity ratings profile[b][c][d]	$(808)	$(14,427)	$(5,446)	$(20,681)	$(17,754)	$ (2,927)	$(20,681)	86 %

December 31, 2014 (in millions, except ratios)	Maturity profile[e] Due in 1 year or less	Due after 1 year through 5 years	Due after 5 years	Total	Ratings profile Investment-grade AAA/Aaa to BBB-/Baa3	Noninvestment-grade BB+/Ba1 & below	Total	Total % of IG
Loans retained	$112,411	$134,277	$77,814	$324,502	$241,666	$ 82,836	$324,502	74 %
Derivative receivables				78,975			78,975	
Less: Liquid securities and other cash collateral held against derivatives				(19,604)			(19,604)	
Total derivative receivables, net of all collateral	20,032	16,130	23,209	59,371	50,815 [f]	8,556 [f]	59,371	86
Lending-related commitments	94,635	262,572	9,674	366,881	284,288	82,593	366,881	77
Subtotal	227,078	412,979	110,697	750,754	576,769	173,985	750,754	77

Loans held-for-sale and loans at fair value[a]				6,412			6,412	
Receivables from customers and other				28,972			28,972	
Total exposure – net of liquid securities and other cash collateral held against derivatives				$786,138			$786,138	
Credit derivatives used in credit portfolio management activities by reference entity ratings profile[b][c][d]	$(2,050)	$(18,653)	$(6,000)	$(26,703)	$(23,571)	$ (3,132)	$(26,703)	88 %

(a) Represents loans held-for-sale, primarily related to syndicated loans and loans transferred from the retained portfolio, and loans at fair value.
(b) These derivatives do not quality for hedge accounting under U.S. GAAP.
(c) The notional amounts are presented on a net basis by underlying reference entity and the ratings profile shown is based on the ratings of the reference entity on which protection has been purchased.
(d) Predominantly all of the credit derivatives entered into by the Firm where it has purchased protection, including Credit derivatives used in credit portfolio management activities, are executed with investment grade counterparties.
(e) The maturity profile of retained loans, lending-related commitments and derivative receivables is based on remaining contractual maturity. Derivative contracts that are in a receivable position at December 31, 2015, may become a payable prior to maturity based on their cash flow profile or changes in market conditions.
(f) Prior period amounts have been revised to conform with current period presentation.

Wholesale credit exposure – industry exposures

The Firm focuses on the management and diversification of its industry exposures, paying particular attention to industries with actual or potential credit concerns. Exposures deemed criticized align with the U.S. banking regulators' definition of criticized exposures, which consist

of the special mention, substandard and doubtful categories. The total criticized component of the portfolio, excluding loans held-for-sale and loans at fair value, was $14.6 billion at December 31, 2015, compared with $10.1 billion at December 31, 2014, driven by downgrades within the Oil & Gas portfolio.

Management's discussion and analysis

Effective in the fourth quarter 2015, the Firm realigned its wholesale industry divisions in order to better monitor and manage industry concentrations. Included in this realignment is the combination of certain previous stand-alone industries (e.g. Consumer & Retail) as well as the creation of a new industry division, Financial Market Infrastructure, consisting of clearing houses, exchanges and related depositories. In the tables below, the prior period information has been revised to conform with the current period presentation.

Below are summaries of the Firm's exposures as of December 31, 2015 and 2014. For additional information on industry concentrations, see Note 5.

Wholesale credit exposure – industries[a]

						Selected metrics			
			Noninvestment-grade						
As of or for the year ended December 31, 2015 (in millions)	Credit exposure[d]	Investment-grade	Noncriticized	Criticized performing	Criticized nonperforming	30 days or more past due and accruing loans	Net charge-offs/(recoveries)	Credit derivative hedges[e]	Liquid securities and other cash collateral held against derivative receivables
Real Estate	$ 116,857	$ 88,076	$ 27,087	$ 1,463	$ 231	$ 208	$ (14)	$ (54)	$ (47)
Consumer & Retail	85,460	53,647	29,659	1,947	207	18	13	(288)	(94)
Technology, Media & Telecommunications	57,382	29,205	26,925	1,208	44	5	(1)	(806)	(21)
Industrials	54,386	36,519	16,663	1,164	40	59	8	(386)	(39)
Healthcare	46,053	37,858	7,755	394	46	129	(7)	(24)	(245)
Banks & Finance Cos	43,398	35,071	7,654	610	63	17	(5)	(974)	(5,509)
Oil & Gas	42,077	24,379	13,158	4,263	277	22	13	(530)	(37)
Utilities	30,853	24,983	5,655	168	47	3	—	(190)	(289)
State & Municipal Govt[b]	29,114	28,307	745	7	55	55	(8)	(146)	(81)
Asset Managers	23,815	20,214	3,570	31	—	18	—	(6)	(4,453)
Transportation	19,227	13,258	5,801	167	1	15	3	(51)	(243)
Central Govt	17,968	17,871	97	—	—	7	—	(9,359)	(2,393)
Chemicals & Plastics	15,232	10,910	4,017	274	31	9	—	(17)	—
Metals & Mining	14,049	6,522	6,434	1,008	85	1	—	(449)	(4)
Automotive	13,864	9,182	4,580	101	1	4	(2)	(487)	(1)
Insurance	11,889	9,812	1,958	26	93	23	—	(157)	(1,410)
Financial Markets Infrastructure	7,973	7,304	669	—	—	—	—	—	(167)
Securities Firms	4,412	1,505	2,907	—	—	3	—	(102)	(256)
All other[c]	149,117	130,488	18,095	370	164	1,015	10	(6,655)	(1,291)
Subtotal	783,126	$ 585,111	$ 183,429	$ 13,201	$ 1,385	$ 1,611	$ 10	$ (20,681)	$ (16,580)
Loans held-for-sale and loans at fair value	3,965								
Receivables from customers and interests in purchased receivables	13,372								
Total	$ 800,463								

			Noninvestment-grade			Selected metrics			
As of or for the year ended December 31, 2014 (in millions)	Credit exposure[e]	Investment-grade	Noncriticized	Criticized performing	Criticized nonperforming	30 days or more past due and accruing loans	Net charge-offs/ (recoveries)	Credit derivative hedges[f]	Liquid securities and other cash collateral held against derivative receivables
Real Estate	$ 105,975	$ 78,996	$ 25,370	$ 1,356	$ 253	$ 309	$ (9)	$ (36)	$ (27)
Consumer & Retail	83,663	52,872	28,289	2,315	187	92	9	(81)	(26)
Technology, Media & Telecommunications	46,655	29,792	15,358	1,446	59	25	(5)	(1,107)	(13)
Industrials	47,859	29,246	17,483	1,117	13	58	(1)	(338)	(24)
Healthcare	56,516	48,402	7,584	488	42	193	16	(94)	(244)
Banks & Finance Cos	55,098	45,962	8,611	508	17	46	(4)	(1,232)	(9,369)
Oil & Gas	43,148	29,260	13,831	56	1	15	2	(144)	(161)
Utilities	27,441	23,533	3,653	255	—	198	(3)	(155)	(193)
State & Municipal Govt[b]	31,068	30,147	819	102	—	69	24	(148)	(130)
Asset Managers	27,488	24,054	3,376	57	1	38	(12)	(9)	(4,545)
Transportation	20,619	13,751	6,703	165	—	5	(12)	(42)	(279)
Central Govt	19,881	19,647	176	58	—	—	—	(11,342)	(1,161)
Chemicals & Plastics	12,612	9,256	3,327	29	—	1	(2)	(14)	—
Metals & Mining	14,969	8,304	6,161	504	—	—	18	(377)	(19)
Automotive	12,754	8,071	4,522	161	—	1	(1)	(140)	—
Insurance	13,350	10,550	2,558	80	162	—	—	(52)	(2,372)
Financial Markets Infrastructure	11,986	11,487	499	—	—	—	—	—	(4)
Securities Firms	4,801	2,491	2,245	10	55	20	4	(102)	(212)
All other[c]	134,475	118,639	15,214	435	187	1,231	(12)	(11,290)	(825)
Subtotal	$ 770,358	$ 594,460	$ 165,779	$ 9,142	$ 977	$ 2,301	$ 12	$ (26,703)	$ (19,604)
Loans held-for-sale and loans at fair value	6,412								
Receivables from customers and interests in purchased receivables	28,972								
Total[d]	$ 805,742								

(a)

The industry rankings presented in the table as of December 31, 2014, are based on the industry rankings of the corresponding exposures at December 31, 2015, not actual rankings of such exposures at December 31, 2014.

(b) In addition to the credit risk exposure to states and municipal governments (both U.S. and non-U.S.) at December 31, 2015 and 2014, noted above, the Firm held: $7.6 billion and $10.6 billion, respectively, of trading securities; $33.6 billion and $30.1 billion, respectively, of available-for-sale (“AFS”) securities; and $12.8 billion and $10.2 billion, respectively, of held-to-maturity (“HTM”) securities, issued by U.S. state and municipal governments. For further information, see Note 3 and Note 12.

(c) All other includes: individuals; SPEs; holding companies; and private education and civic organizations, representing approximately 54%, 37%, 5% and 4%, respectively, at December 31, 2015, and 55%, 33%, 6% and 6%, respectively, at December 31, 2014.

(d) Excludes cash placed with banks of $351.0 billion and $501.5 billion, at December 31, 2015 and 2014, respectively, placed with various central banks, predominantly Federal Reserve Banks.

(e) Credit exposure is net of risk participations and excludes the benefit of “Credit derivatives used in credit portfolio management activities” held against derivative receivables or loans and “Liquid securities and other cash collateral held against derivative receivables”.

(f) Represents the net notional amounts of protection purchased and sold through credit derivatives used to manage the credit exposures; these derivatives do not qualify for hedge accounting under U.S. GAAP. The All other category includes purchased credit protection on certain credit indices.

Management's discussion and analysis

Presented below is a discussion of certain industries to which the Firm has significant exposure and/or present actual or potential credit concerns. For additional information, refer to the tables on the previous pages.

- Real Estate: Exposure to this industry increased by $10.9 billion, or 10%, in 2015 to $116.9 billion. The increase was largely driven by growth in multifamily exposure in Commercial Banking. The credit quality of this industry remained stable as the investment-grade portion of the exposures was 75% for 2015 and 2014. The ratio of nonaccrual retained loans to total retained loans decreased to 0.25% at December 31, 2015 from 0.32% at December 31, 2014. For further information on commercial real estate loans, see Note 14.
- Oil & Gas: Exposure to the Oil & Gas industry was approximately 5.3% and 5.4% of the Firm's total wholesale exposure as of December 31, 2015 and 2014, respectively. Exposure to this industry decreased by $1.1 billion in 2015 to $42.1 billion; of the $42.1 billion, $13.3 billion was drawn at year-end. As of December 31, 2015, approximately $24 billion of the exposure was investment-grade, of which $4 billion was drawn, and approximately $18 billion of the exposure was high yield, of which $9 billion was drawn. As of December 31, 2015, $23.5 billion of the portfolio was concentrated in the Exploration & Production and Oilfield Services sub-sectors, 36% of which exposure was drawn. Exposure to other sub-sectors, including Integrated oil and gas firms, Midstream/Oil Pipeline companies, and Refineries, is predominantly investment-grade. As of December 31, 2015, secured lending, which largely consists of reserve-based lending to the Oil & Gas industry, was $12.3 billion, 44% of which exposure was drawn.

In addition to $42.1 billion in exposure classified as Oil & Gas, the Firm had $4.3 billion in exposure to Natural Gas Pipelines and related Distribution businesses, of which $893 million was drawn at year end and 63% was investment-grade, and $4.1 billion in exposure to commercial real estate in geographies sensitive to the Oil & Gas industry.

The Firm continues to actively monitor and manage its exposure to the Oil & Gas industry in light of market conditions, and is also actively monitoring potential contagion effects on other related or dependent industries.

- Metals & Mining: Exposure to the Metals & Mining industry was approximately 1.8% and 1.9% of the Firm's total wholesale exposure as of December 31, 2015 and 2014, respectively. Exposure to the Metals & Mining industry decreased by $920 million in 2015 to $14.0 billion, of which $4.6 billion was drawn. The portfolio largely consists of exposure in North America, and 59% is concentrated in the Steel and Diversified Mining sub-sectors. Approximately 46% of the exposure in the Metals & Mining portfolio was investment-grade as of December 31, 2015, a decrease from 55% as of December 31, 2014, due to downgrades.

Loans

In the normal course of its wholesale business, the Firm provides loans to a variety of customers, ranging from large corporate and institutional clients to high-net-worth individuals. The Firm actively manages its wholesale credit exposure. One way of managing credit risk is through secondary market sales of loans and lending-related commitments. For further discussion on loans, including information on credit quality indicators and sales of loans, see Note 14.

The following table presents the change in the nonaccrual loan portfolio for the years ended December 31, 2015 and 2014.

Wholesale nonaccrual loan activity

Year ended December 31, (in millions)	2015	2014
Beginning balance	$624	$1,044
Additions	1,307	882
Reductions:		
Paydowns and other	534	756
Gross charge-offs	87	148
Returned to performing status	286	303
Sales	8	95
Total reductions	915	1,302
Net changes	392	(420)

Ending balance	$1,016	$624

The following table presents net charge-offs, which are defined as gross charge-offs less recoveries, for the years ended December 31, 2015 and 2014. The amounts in the table below do not include gains or losses from sales of nonaccrual loans.

Wholesale net charge-offs

Year ended December 31, (in millions, except ratios)	2015	2014
Loans – reported		
Average loans retained	$337,407	$316,060
Gross charge-offs	95	151
Gross recoveries	(85)	(139)
Net charge-offs	10	12
Net charge-off rate	—%	—%

Receivables from customers

Receivables from customers primarily represent margin loans to prime and retail brokerage clients that are collateralized through a pledge of assets maintained in clients' brokerage accounts which are subject to daily minimum collateral requirements. In the event that the collateral value decreases, a maintenance margin call is made to the client to provide additional collateral into the account. If additional collateral is not provided by the client, the client's position may be liquidated by the Firm to meet the minimum collateral requirements.

Lending-related commitments

The Firm uses lending-related financial instruments, such as commitments (including revolving credit facilities) and guarantees, to meet the financing needs of its customers. The contractual amounts of these financial instruments represent the maximum possible credit risk should the counterparties draw down on these commitments or the Firm fulfills its obligations under these guarantees, and the counterparties subsequently fail to perform according to the terms of these contracts.

In the Firm's view, the total contractual amount of these wholesale lending-related commitments is not representative of the Firm's likely actual future credit exposure or funding requirements. In determining the amount of credit risk exposure the Firm has to wholesale lending-related commitments, which is used as the basis for allocating credit risk capital to these commitments, the Firm has established a "loan-equivalent" amount for each commitment; this amount represents the portion of the unused commitment or other contingent exposure that is expected, based on average portfolio historical experience, to become drawn upon in an event of a default by an obligor. The loan-equivalent amount of the Firm's lending-related commitments was $212.4 billion and $216.5 billion as of December 31, 2015 and 2014, respectively.

Clearing services

The Firm provides clearing services for clients entering into securities and derivative transactions. Through the provision of these services the Firm is exposed to the risk of non-performance by its clients and may be required to share in losses incurred by central counterparties ("CCPs"). Where possible, the Firm seeks to mitigate its credit risk to its clients through the collection of adequate margin at inception and throughout the life of the transactions and can also cease provision of clearing services if clients do not adhere to their obligations under the clearing agreement. For further discussion of Clearing services, see Note 29.

Derivative contracts

In the normal course of business, the Firm uses derivative instruments predominantly for market-making activities. Derivatives enable customers to manage exposures to fluctuations in interest rates, currencies and other markets. The Firm also uses derivative instruments to manage its own credit and other market risk exposure. The nature of the counterparty and the settlement mechanism of the derivative affect the credit risk to which the Firm is exposed. For OTC derivatives the Firm is exposed to the credit risk of the derivative counterparty. For exchange-traded derivatives ("ETD"), such as futures and options and "cleared" over-the-counter ("OTC-cleared") derivatives, the Firm is generally exposed to the credit risk of the relevant CCP. Where possible, the Firm seeks to mitigate its credit risk exposures arising from derivative transactions through the use of legally enforceable master netting arrangements and collateral agreements. For further discussion of derivative contracts, counterparties and settlement types, see Note 6.

The following table summarizes the net derivative receivables for the periods presented.

Derivative receivables

December 31, (in millions)	2015	2014
Interest rate	$26,363	$33,725
Credit derivatives	1,423	1,838
Foreign exchange	17,177	21,253
Equity	5,529	8,177
Commodity	9,185	13,982
Total, net of cash collateral	59,677	78,975
Liquid securities and other cash collateral held against derivative receivables	(16,580)	(19,604)

Total, net of all collateral	$43,097	$59,371

Derivative receivables reported on the Consolidated balance sheets were $59.7 billion and $79.0 billion at December 31, 2015 and 2014, respectively. These amounts represent the fair value of the derivative contracts, after giving effect to legally enforceable master netting agreements and cash collateral held by the Firm. However, in management’s view, the appropriate measure of current credit risk should also take into consideration additional liquid securities (primarily U.S. government and agency securities and other group of seven nations (“G7”) government bonds) and other cash collateral held by the Firm aggregating $16.6 billion and $19.6 billion at December 31, 2015 and 2014, respectively, that may be used as security when the fair value of the client’s exposure is in the Firm’s favor. The decrease in derivative receivables was predominantly driven by declines in interest rate derivatives, commodity derivatives, foreign exchange derivatives and equity derivatives due to market movements, maturities and settlements related to client-driven market-making activities in CIB.

Management's discussion and analysis

In addition to the collateral described in the preceding paragraph, the Firm also holds additional collateral (primarily cash; G7 government securities; other liquid government-agency and guaranteed securities; and corporate debt and equity securities) delivered by clients at the initiation of transactions, as well as collateral related to contracts that have a non-daily call frequency and collateral that the Firm has agreed to return but has not yet settled as of the reporting date. Although this collateral does not reduce the balances and is not included in the table above, it is available as security against potential exposure that could arise should the fair value of the client's derivative transactions move in the Firm's favor. As of December 31, 2015 and 2014, the Firm held $43.7 billion and $48.6 billion, respectively, of this additional collateral. The derivative receivables fair value, net of all collateral, also does not include other credit enhancements, such as letters of credit. For additional information on the Firm's use of collateral agreements, see Note 6.

While useful as a current view of credit exposure, the net fair value of the derivative receivables does not capture the potential future variability of that credit exposure. To capture the potential future variability of credit exposure, the Firm calculates, on a client-by-client basis, three measures of potential derivatives-related credit loss: Peak, Derivative Risk Equivalent ("DRE"), and Average exposure ("AVG"). These measures all incorporate netting and collateral benefits, where applicable.

Peak represents a conservative measure of potential exposure to a counterparty calculated in a manner that is broadly equivalent to a 97.5% confidence level. Peak is the primary measure used by the Firm for setting of credit limits for derivative transactions, senior management reporting and derivatives exposure management. DRE exposure is a measure that expresses the risk of derivative exposure on a basis intended to be equivalent to the risk of loan exposures. DRE is a less extreme measure of potential credit loss than Peak and is used for aggregating derivative credit risk exposures with loans and other credit risk.

Finally, AVG is a measure of the expected fair value of the Firm's derivative receivables at future time periods, including the benefit of collateral. AVG exposure over the total life of the derivative contract is used as the primary metric for pricing purposes and is used to calculate credit capital and the CVA, as further described below. The three year AVG exposure was $32.4 billion and $37.5 billion at December 31, 2015 and 2014, respectively, compared with derivative receivables, net of all collateral, of $43.1 billion and $59.4 billion at December 31, 2015 and 2014, respectively.

The fair value of the Firm's derivative receivables incorporates an adjustment, the CVA, to reflect the credit quality of counterparties. The CVA is based on the Firm's AVG to a counterparty and the counterparty's credit spread in the credit derivatives market. The primary components of changes in CVA are credit spreads, new deal activity or unwinds, and changes in the underlying market environment. The Firm believes that active risk management is essential to controlling the dynamic credit risk in the derivatives portfolio. In addition, the Firm's risk management process takes into consideration the potential impact of wrong-way risk, which is broadly defined as the potential for increased correlation between the Firm's exposure to a counterparty (AVG) and the counterparty's credit quality. Many factors may influence the nature and magnitude of these correlations over time. To the extent that these correlations are identified, the Firm may adjust the CVA associated with that counterparty's AVG. The Firm risk manages exposure to changes in CVA by entering into credit derivative transactions, as well as interest rate, foreign exchange, equity and commodity derivative transactions.

The accompanying graph shows exposure profiles to the Firm's current derivatives portfolio over the next 10 years as calculated by the Peak, DRE and AVG metrics. The three measures generally show that exposure will decline after the first year, if no new trades are added to the portfolio.

Exposure profile of derivatives measures
December 31, 2015
(in billions)

The following table summarizes the ratings profile by derivative counterparty of the Firm's derivative receivables, including credit derivatives, net of other liquid securities collateral, at the dates indicated. The ratings scale is based on the Firm's internal ratings, which generally correspond to the ratings as defined by S&P and Moody's.

Ratings profile of derivative receivables

Rating equivalent	2015			2014[(a)]		
December 31, (in millions, except ratios)	Exposure net of all collateral	% of exposure net of all collateral		Exposure net of all collateral	% of exposure net of all collateral	
AAA/Aaa to AA-/Aa3	$10,371	24	%	$18,713	32	%
A+/A1 to A-/A3	10,595	25		13,508	23	
BBB+/Baa1 to BBB-/Baa3	13,807	32		18,594	31	
BB+/Ba1 to B-/B3	7,500	17		7,735	13	
CCC+/Caa1 and below	824	2		821	1	
Total	$43,097	100	%	$59,371	100	%

(a) Prior period amounts have been revised to conform with current period presentation.

As previously noted, the Firm uses collateral agreements to mitigate counterparty credit risk. The percentage of the Firm's derivatives transactions subject to collateral agreements — excluding foreign exchange spot trades, which are not typically covered by collateral agreements due to their short maturity — was 87% as of December 31, 2015, largely unchanged compared with 88% as of December 31, 2014.

Credit derivatives

The Firm uses credit derivatives for two primary purposes: first, in its capacity as a market-maker, and second, as an end-user to manage the Firm's own credit risk associated with various exposures. For a detailed description of credit derivatives, see Credit derivatives in Note 6.

Credit portfolio management activities

Included in the Firm's end-user activities are credit derivatives used to mitigate the credit risk associated with traditional lending activities (loans and unfunded commitments) and derivatives counterparty exposure in the Firm's wholesale businesses (collectively, "credit portfolio management" activities). Information on credit portfolio management activities is provided in the table below. For further information on derivatives used in credit portfolio management activities, see Credit derivatives in Note 6.

The Firm also uses credit derivatives as an end-user to manage other exposures, including credit risk arising from certain securities held in the Firm's market-making businesses. These credit derivatives are not included in credit portfolio management activities; for further information on these credit derivatives as well as credit derivatives used in the Firm's capacity as a market-maker in credit derivatives, see Credit derivatives in Note 6.

Credit derivatives used in credit portfolio management activities

	Notional amount of protection purchased [(a)]	
December 31, (in millions)	2015	2014
Credit derivatives used to manage:		
Loans and lending-related commitments	$2,289	$2,047
Derivative receivables	18,392	24,656
Credit derivatives used in credit portfolio management activities	$20,681	$26,703

(a) Amounts are presented net, considering the Firm's net protection purchased or sold with respect to each underlying reference entity or index.

The credit derivatives used in credit portfolio management activities do not qualify for hedge accounting under U.S. GAAP; these derivatives are reported at fair value, with gains and losses recognized in principal transactions revenue. In contrast, the loans and lending-related commitments being risk-managed are accounted for on an accrual basis. This asymmetry in accounting treatment, between loans and lending-related commitments and the credit derivatives used in credit portfolio management activities, causes earnings volatility that is not representative, in the Firm's view, of the true changes in value of the Firm's overall credit exposure.

The effectiveness of the Firm's credit default swap ("CDS") protection as a hedge of the Firm's exposures may vary depending on a number of factors, including the named reference entity (i.e., the Firm may experience losses on specific exposures that are different than the named reference entities in the purchased CDS); the contractual terms of the CDS (which may have a defined credit event that does not align with an actual loss realized by the Firm); and the maturity of the Firm's CDS protection (which in some cases may be shorter than the Firm's exposures). However, the Firm generally seeks to purchase credit protection with a maturity date that is the same or similar to the maturity date of the exposure for which the protection was purchased, and remaining differences in maturity are actively monitored and managed by the Firm.

ALLOWANCE FOR CREDIT LOSSES

JPMorgan Chase's allowance for loan losses covers both the consumer (primarily scored) portfolio and wholesale (risk-rated) portfolio. The allowance represents management's estimate of probable credit losses inherent in the Firm's loan portfolio. Management also determines an allowance for wholesale and certain consumer lending-related commitments.

For a further discussion of the components of the allowance for credit losses and related management judgments, see Critical Accounting Estimates Used by the Firm on pages 165–169 and Note 15.

At least quarterly, the allowance for credit losses is reviewed by the Chief Risk Officer, the Chief Financial Officer and the Controller of the Firm, and discussed with the DRPC and Audit Committee of the Firm's Board of Directors. As of December 31, 2015, JPMorgan Chase deemed the allowance for credit losses to be appropriate and sufficient to absorb probable credit losses inherent in the portfolio.

The consumer, excluding credit card, allowance for loan losses decreased from December 31, 2014, due to a reduction in the residential real estate portfolio allowance, reflecting continued improvement in home prices and delinquencies and increased granularity in the impairment estimates. For additional information about delinquencies and nonaccrual loans in the consumer, excluding credit card, loan portfolio, see Consumer Credit Portfolio on pages 115–121 and Note 14.

The credit card allowance for loan losses was relatively unchanged from December 31, 2014, reflecting stable credit quality trends. For additional information about delinquencies in the credit card loan portfolio, see Consumer Credit Portfolio on pages 115–121 and Note 14.

The wholesale allowance for credit losses increased from December 31, 2014, reflecting the impact of downgrades in the Oil & Gas portfolio. Excluding Oil and Gas, the wholesale portfolio continued to experience generally stable credit quality trends and low charge-off rates.

Summary of changes in the allowance for credit losses

Year ended December 31, (in millions, except ratios)	2015 Consumer, excluding credit card	Credit card	Wholesale	Total	2014 Consumer, excluding credit card	Credit card	Wholesale	Total
Allowance for loan losses								
Beginning balance at January 1,	$7,050	$3,439	$3,696	$14,185	$8,456	$3,795	$4,013	$16,264
Gross charge-offs	1,658	3,488	95	5,241	2,132	3,831	151	6,114
Gross recoveries	(704)	(366)	(85)	(1,155)	(814)	(402)	(139)	(1,355)
Net charge-offs	954	3,122	10	4,086	1,318	3,429	12	4,759
Write-offs of PCI loans[a]	208	—	—	208	533	—	—	533
Provision for loan losses	(82)	3,122	623	3,663	414	3,079	(269)	3,224
Other	—	(5)	6	1	31	(6)	(36)	(11)
Ending balance at December 31,	$5,806	$3,434	$4,315	$13,555	$7,050	$3,439	$3,696	$14,185
Impairment methodology								
Asset-specific[b]	$364	$460	$274	$1,098	$539	$500	$87	$1,126
Formula-based	2,700	2,974	4,041	9,715	3,186	2,939	3,609	9,734
PCI	2,742	—	—	2,742	3,325	—	—	3,325
Total allowance for loan losses	$5,806	$3,434	$4,315	$13,555	$7,050	$3,439	$3,696	$14,185
Allowance for lending-related commitments								
Beginning balance at January 1,	$13	$—	$609	$622	$8	$—	$697	$705
Provision for lending-related commitments	1	—	163	164	5	—	(90)	(85)
Other	—	—	—	—	—	—	2	2
Ending balance at December 31,	$14	$—	$772	$786	$13	$—	$609	$622
Impairment methodology								
Asset-specific	$—	$—	$73	$73	$—	$—	$60	$60
Formula-based	14	—	699	713	13	—	549	562
Total allowance for lending-related commitments[c]	$14	$—	$772	$786	$13	$—	$609	$622
Total allowance for credit losses	$5,820	$3,434	$5,087	$14,341	$7,063	$3,439	$4,305	$14,807
Memo:								
	$344,355	$131,387	$357,050	$832,792	$294,979	$128,027	$324,502	$747,508

Retained loans, end of period								
Retained loans, average	318,612	124,274	337,407	780,293	289,212	124,604	316,060	729,876
PCI loans, end of period	40,998	—	4	41,002	46,696	—	4	46,700
Credit ratios								
Allowance for loan losses to retained loans	1.69 %	2.61 %	1.21 %	1.63 %	2.39 %	2.69 %	1.14 %	1.90 %
Allowance for loan losses to retained nonaccrual loans(d)	109	NM	437	215	110	NM	617	202
Allowance for loan losses to retained nonaccrual loans excluding credit card	109	NM	437	161	110	NM	617	153
Net charge-off rates	0.30	2.51	—	0.52	0.46	2.75	—	0.65
Credit ratios, excluding residential real estate PCI loans								
Allowance for loan losses to retained loans	1.01	2.61	1.21	1.37	1.50	2.69	1.14	1.55
Allowance for loan losses to retained nonaccrual loans(d)	58	NM	437	172	58	NM	617	155
Allowance for loan losses to retained nonaccrual loans excluding credit card	58	NM	437	117	58	NM	617	106
Net charge-off rates	0.35 %	2.51 %	— %	0.55 %	0.55 %	2.75 %	— %	0.70 %

Note: In the table above, the financial measures which exclude the impact of PCI loans are non-GAAP financial measures. For additional information, see Explanation and Reconciliation of the Firm's Use of Non-GAAP Financial Measures on pages 80–82.

(a) Write-offs of PCI loans are recorded against the allowance for loan losses when actual losses for a pool exceed estimated losses that were recorded as purchase accounting adjustments at the time of acquisition. A write-off of a PCI loan is recognized when the underlying loan is removed from a pool (e.g., upon liquidation). During the fourth quarter of 2014, the Firm recorded a $291 million adjustment to reduce the PCI allowance and the recorded investment in the Firm's PCI loan portfolio, primarily reflecting the cumulative effect of interest forgiveness modifications. This adjustment had no impact to the Firm's Consolidated statements of income.

(b) Includes risk-rated loans that have been placed on nonaccrual status and loans that have been modified in a TDR. The asset-specific credit card allowance for loan losses modified in a TDR is calculated based on the loans' original contractual interest rates and does not consider any incremental penalty rates.

(c) The allowance for lending-related commitments is reported in other liabilities on the Consolidated balance sheets.

(d) The Firm's policy is generally to exempt credit card loans from being placed on nonaccrual status as permitted by regulatory guidance.

Provision for credit losses

For the year ended December 31, 2015, the provision for credit losses was $3.8 billion, compared with $3.1 billion for the year ended December 31, 2014.

The total consumer provision for credit losses for the year ended December 31, 2015 reflected lower net charge-offs due to continued discipline in credit underwriting as well as improvement in the economy driven by increasing home prices and lower unemployment, partially offset by a lower reduction in the allowance for loan loss compared with December 31, 2014.

The wholesale provision for credit losses for the year ended December 31, 2015 reflected the impact of downgrades in the Oil & Gas portfolio.

Year ended December 31,	Provision for loan losses			Provision for lending-related commitments			Total provision for credit losses		
(in millions)	2015	2014	2013	2015	2014	2013	2015	2014	2013
Consumer, excluding credit card	$(82)	$414	$(1,872)	$1	$5	$1	$(81)	$419	$(1,871)
Credit card	3,122	3,079	2,179	—	—	—	3,122	3,079	2,179
Total consumer	3,040	3,493	307	1	5	1	3,041	3,498	308
Wholesale	623	(269)	(119)	163	(90)	36	786	(359)	(83)
Total	$3,663	$3,224	$188	$164	$(85)	$37	$3,827	$3,139	$225

MARKET RISK MANAGEMENT

Market risk is the potential for adverse changes in the value of the Firm's assets and liabilities resulting from changes in market variables such as interest rates, foreign exchange rates, equity prices, commodity prices, implied volatilities or credit spreads.

Market risk management

Market Risk management, part of the independent risk management function, is responsible for identifying and monitoring market risks throughout the Firm and defines market risk policies and procedures. The Market Risk function reports to the Firm's CRO.

Market Risk seeks to control risk, facilitate efficient risk/return decisions, reduce volatility in operating performance and provide transparency into the Firm's market risk profile for senior management, the Board of Directors and regulators. Market Risk is responsible for the following functions:

- Establishment of a market risk policy framework
- Independent measurement, monitoring and control of line of business and firmwide market risk
- Definition, approval and monitoring of limits
- Performance of stress testing and qualitative risk assessments

Risk identification and classification

Each line of business is responsible for the management of the market risks within its units. The independent risk management group responsible for overseeing each line of business is charged with ensuring that all material market risks are appropriately identified, measured, monitored and managed in accordance with the risk policy framework set out by Market Risk.

Risk measurement

Tools used to measure risk

Because no single measure can reflect all aspects of market risk, the Firm uses various metrics, both statistical and nonstatistical, including:

- VaR
- Economic-value stress testing
- Nonstatistical risk measures
- Loss advisories
- Profit and loss drawdowns
- Earnings-at-risk

Risk monitoring and control

Market risk is controlled primarily through a series of limits set in the context of the market environment and business strategy. In setting limits, the Firm takes into consideration factors such as market volatility, product liquidity and accommodation of client business and management experience. The Firm maintains different levels of limits. Corporate level limits include VaR and stress limits. Similarly, line of business limits include VaR and stress limits and may be supplemented by loss advisories, nonstatistical measurements and profit and loss drawdowns. Limits may also be set within the lines of business, as well at the portfolio or legal entity level.

Limits are set by Market Risk and are regularly reviewed and updated as appropriate, with any changes approved by line of business management and Market Risk. Senior management, including the Firm's CEO and CRO, are responsible for reviewing and approving certain of these risk limits on an ongoing basis. All limits that have not been reviewed within specified time periods by Market Risk are escalated to senior management. The lines of business are responsible for adhering to established limits against which exposures are monitored and reported.

Limit breaches are required to be reported in a timely manner to limit approvers, Market Risk and senior management. In the event of a breach, Market Risk consults with Firm senior management and the line of business senior management to determine the appropriate course of action required to return to compliance, which may include a reduction in risk in order to remedy the breach. Certain Firm or line of business-level limits that have been breached for three business days or longer, or by more than 30%, are escalated to senior management and the Firmwide Risk Committee.

Management's discussion and analysis

The following table summarizes by LOB the predominant business activities that give rise to market risk, and the market risk management tools utilized to manage those risks; CB is not presented in the table below as it does not give rise to significant market risk.

Risk identification and classification for business activities

LOB	Predominant business activities and related market risks	Positions included in Risk Management VaR	Positions included in other risk measures (Not included in Risk Management VaR)
CIB	• Makes markets and services clients across fixed income, foreign exchange, equities and commodities • Market risk arising from changes in market prices (e.g. rates and credit spreads) resulting in a potential decline in net income	• Market risk[(a)] related to: • Trading assets/liabilities – debt and equity instruments, and derivatives, including hedges of the retained loan portfolio • Certain securities purchased under resale agreements and securities borrowed • Certain securities loaned or sold under repurchase agreements • Structured notes • Derivative CVA and associated hedges	• Principal investing activities • Retained loan portfolio • Deposits • DVA and FVA on derivatives and structured notes
CCB	• Originates and services mortgage loans • Complex, non-linear interest rate and basis risk • Non-linear risk arises primarily from prepayment options embedded in mortgages and changes in the probability of newly originated mortgage commitments actually closing • Basis risk results from differences in the relative movements of the rate indices underlying mortgage exposure and other interest rates	Mortgage Banking • Mortgage pipeline loans, classified as derivatives • Warehouse loans, classified as trading assets – debt instruments • MSRs • Hedges of pipeline loans, warehouse loans and MSRs, classified as derivatives. • Interest-only securities, classified as trading assets, and related hedges, classified as derivatives	• Retained loan portfolio • Deposits • Principal investing activities
Corporate	• Manages the Firm's liquidity, funding, structural interest rate and foreign exchange risks arising from activities undertaken by the Firm's four major reportable business segments	Treasury and CIO • Primarily derivative positions measured at fair value through earnings, classified as derivatives	• Principal investing activities • Investment securities portfolio and related hedges • Deposits • Long-term debt and related hedges
AM	• Market risk arising from the Firm's initial capital investments in products, such as mutual funds, managed by AM	• Initial seed capital investments and related hedges, classified as derivatives	• Capital invested alongside third-party investors, typically in privately distributed collective vehicles managed by AM (i.e., co-investments)

• Retained loan portfolio
• Deposits

(a) Market risk measurement for derivatives generally incorporates the impact of DVA and FVA; market risk measurement for structured notes generally excludes the impact of FVA and DVA.

Value-at-risk

JPMorgan Chase utilizes VaR, a statistical risk measure, to estimate the potential loss from adverse market moves in a normal market environment. The Firm has a single VaR framework used as a basis for calculating Risk Management VaR and Regulatory VaR.

The framework is employed across the Firm using historical simulation based on data for the previous 12 months. The framework's approach assumes that historical changes in market values are representative of the distribution of potential outcomes in the immediate future. The Firm believes the use of Risk Management VaR provides a stable measure of VaR that closely aligns to the day-to-day risk management decisions made by the lines of business, and provides the necessary and appropriate information needed to respond to risk events on a daily basis.

Risk Management VaR is calculated assuming a one-day holding period and an expected tail-loss methodology which approximates a 95% confidence level. VaR provides a consistent framework to measure risk profiles and levels of diversification across product types and is used for aggregating risks across businesses and monitoring limits. These VaR results are reported to senior management, the Board of Directors and regulators.

Under the Firm's Risk Management VaR methodology, assuming current changes in market values are consistent with the historical changes used in the simulation, the Firm would expect to incur VaR "band breaks," defined as losses greater than that predicted by VaR estimates, not more than five times every 100 trading days. The number of VaR band breaks observed can differ from the statistically expected number of band breaks if the current level of market volatility is materially different from the level of market volatility during the 12 months of historical data used in the VaR calculation.

Underlying the overall VaR model framework are individual VaR models that simulate historical market returns for individual products and/or risk factors. To capture material market risks as part of the Firm's risk management framework, comprehensive VaR model calculations are performed daily for businesses whose activities give rise to market risk. These VaR models are granular and incorporate numerous risk factors and inputs to simulate daily changes in market values over the historical period; inputs are selected based on the risk profile of each portfolio as sensitivities and historical time series used to generate daily market values may be different across product types or risk management systems. The VaR model results across all portfolios are aggregated at the Firm level.

For certain products, specific risk parameters are not captured in VaR due to the lack of inherent liquidity and availability of appropriate historical data for these products. The Firm uses proxies to estimate the VaR for these and other products when daily time series are not available. It is likely that using an actual price-based time series for these products, if available, would affect the VaR results presented.

In addition, data sources used in VaR models may not be the same as those used for financial statement valuations. In cases where market prices are not observable, or where proxies are used in VaR historical time series, the sources may differ. The daily market data used in VaR models may be different than the independent third-party data collected for VCG price testing in VCG's monthly valuation process (see Valuation process in Note 3 for further information on the Firm's valuation process). VaR model calculations require daily data and a consistent source for valuation and therefore it is not practical to use the data collected in the VCG monthly valuation process.

Since VaR is based on historical data, it is an imperfect measure of market risk exposure and potential losses, and it is not used to estimate the impact of stressed market conditions or to manage any impact from potential stress events. In addition, based on their reliance on available historical data, limited time horizons, and other factors, VaR measures are inherently limited in their ability to measure certain risks and to predict losses, particularly those associated with market illiquidity and sudden or severe shifts in market conditions. The Firm therefore considers other measures in addition to VaR, such as stress testing, to capture and manage its market risk positions.

The Firm's VaR model calculations are periodically evaluated and enhanced in response to changes in the composition of the Firm's portfolios, changes in market conditions, improvements in the Firm's modeling techniques and other factors. Such changes may also affect historical comparisons of VaR results. Model changes undergo a review and approval process by the Model Review Group prior to implementation into the operating environment. For further information, see Model risk on page 142.

The Firm calculates separately a daily aggregated VaR in accordance with regulatory rules (“Regulatory VaR”), which is used to derive the Firm’s regulatory VaR-based capital requirements under Basel III. This Regulatory VaR model framework currently assumes a ten business-day holding period and an expected tail loss methodology which approximates a 99% confidence level. Regulatory VaR is applied to “covered” positions as defined by Basel III, which may be different than the positions included in the Firm’s Risk Management VaR. For example, credit derivative hedges of accrual loans are included in the Firm’s Risk Management VaR, while Regulatory VaR excludes these credit derivative hedges. In addition, in contrast to the Firm’s Risk Management VaR, Regulatory VaR currently excludes the diversification benefit for certain VaR models.

Management's discussion and analysis

For additional information on Regulatory VaR and the other components of market risk regulatory capital (e.g. VaR-based measure, stressed VaR-based measure and the respective backtesting) for the Firm, see JPMorgan Chase's

Basel III Pillar 3 Regulatory Capital Disclosures reports, which are available on the Firm's website (http://investor.shareholder.com/jpmorganchase/basel.cfm).

The table below shows the results of the Firm's Risk Management VaR measure using a 95% confidence level.

Total VaR

As of or for the year ended December 31,	2015			2014			At December 31,	
(in millions)	Avg.	Min	Max	Avg.	Min	Max	2015	2014
CIB trading VaR by risk type								
Fixed income	$42	$31	$60	$34	$23	$45	$37	$34
Foreign exchange	9	6	16	8	4	25	6	8
Equities	18	11	26	15	10	23	21	22
Commodities and other	10	6	14	8	5	14	10	6
Diversification benefit to CIB trading VaR	(35)[a]	NM[b]	NM[b]	(30)[a]	NM[b]	NM[b]	(28)[a]	(32)[a]
CIB trading VaR	44	27	68	35	24	49	46	38
Credit portfolio VaR	14	10	20	13	8	18	10	16
Diversification benefit to CIB VaR	(9)[a]	NM[b]	NM[b]	(8)[a]	NM[b]	NM[b]	(10)[a]	(9)[a]
CIB VaR	49	34	71	40	29	56	46	45
Mortgage Banking VaR	4	2	8	7	2	28	4	3
Treasury and CIO VaR	4	3	7	4	3	6	5	4
Asset Management VaR	3	2	4	3	2	4	3	2
Diversification benefit to other VaR	(3)[a]	NM[b]	NM[b]	(4)[a]	NM[b]	NM[b]	(4)[a]	(3)[a]
Other VaR	8	5	12	10	5	27	8	6
Diversification benefit to CIB and other VaR	(10)[a]	NM[b]	NM[b]	(7)[a]	NM[b]	NM[b]	(9)[a]	(5)[a]
Total VaR	$47	$34	$67	$43	$30	$70	$45	$46

(a) Average portfolio VaR and period-end portfolio VaR were less than the sum of the VaR of the components described above, which is due to portfolio diversification. The diversification effect reflects the fact that risks are not perfectly correlated.

(b) Designated as not meaningful ("NM"), because the minimum and maximum may occur on different days for distinct risk components, and hence it is not meaningful to compute a portfolio-diversification effect.

As presented in the table above, average Total VaR and average CIB VaR increased during 2015 when compared with 2014. The increase in Total VaR was primarily due to higher volatility in the CIB in the historical one-year look-back period during 2015 versus 2014.

Average CIB trading VaR increased during 2015 primarily due to higher VaR in the Fixed Income and Equities risk factors reflecting a combination of higher market volatility and increased exposure.

Average Mortgage Banking VaR decreased from the prior year. Average Mortgage Banking VaR was elevated late in the second quarter of 2014 due to a change in the MSR hedge position made in advance of an anticipated update to certain MSR model assumptions; when such updates were implemented, the MSR VaR decreased to levels more consistent with prior periods.

The Firm continues to enhance the VaR model calculations and time series inputs related to certain asset-backed products.

The Firm's average Total VaR diversification benefit was $10 million or 21% of the sum for 2015, compared with $7 million or 16% of the sum for 2014. In general, over the course of the year, VaR exposure can vary significantly as positions change, market volatility fluctuates and diversification benefits change.

VaR back-testing

The Firm evaluates the effectiveness of its VaR methodology by back-testing, which compares the daily Risk Management VaR results with the daily gains and losses recognized on market-risk related revenue.

The Firm's definition of market risk-related gains and losses is consistent with the definition used by the banking regulators under Basel III. Under this definition market risk-related gains and losses are defined as: gains and losses on the positions included in the Firm's Risk Management VaR, excluding fees, commissions, certain valuation adjustments (e.g., liquidity and DVA), net interest income, and gains and losses arising from intraday trading.

The following chart compares the daily market risk-related gains and losses with the Firm's Risk Management VaR for the year ended December 31, 2015. As the chart presents market risk-related gains and losses related to those positions included in the Firm's Risk Management VaR, the results in the table below differ from the results of back-testing disclosed in the Market Risk section of the Firm's

Basel III Pillar 3 Regulatory Capital Disclosures reports, which are based on Regulatory VaR applied to covered positions. The chart shows that for the year ended December 31, 2015, the Firm observed three VaR band breaks and posted Market risk-related gains on 117 of the 260 days in this period.

Other risk measures
Economic-value stress testing
Along with VaR, stress testing is an important tool in measuring and controlling risk. While VaR reflects the risk of loss due to adverse changes in markets using recent historical market behavior as an indicator of losses, stress testing is intended to capture the Firm's exposure to unlikely but plausible events in abnormal markets. The Firm runs weekly stress tests on market-related risks across the lines of business using multiple scenarios that assume significant changes in risk factors such as credit spreads, equity prices, interest rates, currency rates or commodity prices.
The Firm uses a number of standard scenarios that capture different risk factors across asset classes including geographical factors, specific idiosyncratic factors and extreme tail events. The stress framework calculates multiple magnitudes of potential stress for both market rallies and market sell-offs for each risk factor and combines them in multiple ways to capture different market scenarios. For example, certain scenarios assess the potential loss arising from current exposures held by the Firm due to a broad sell off in bond markets or an extreme widening in corporate credit spreads. The flexibility of the

stress testing framework allows risk managers to construct new, specific scenarios that can be used to form decisions about future possible stress events.
Stress testing complements VaR by allowing risk managers
to shock current market prices to more extreme levels relative to those historically realized, and to stress test the relationships between market prices under extreme scenarios.
Stress-test results, trends and qualitative explanations based on current market risk positions are reported to the respective LOB's and the Firm's senior management to allow them to better understand the sensitivity of positions to certain defined events and to enable them to manage their risks with more transparency. In addition, results are reported to the Board of Directors.
Stress scenarios are defined and reviewed by Market Risk, and significant changes are reviewed by the relevant LOB Risk Committees and may be redefined on a periodic basis to reflect current market conditions.
The Firm's stress testing framework is utilized in calculating results under scenarios mandated by the Federal Reserve's Comprehensive Capital Analysis and Review ("CCAR") and

Internal Capital Adequacy Assessment Process ("ICAAP")processes. In addition, the results are incorporated into the quarterly assessment of the Firm's Risk Appetite Framework and are also presented to the DRPC.

Nonstatistical risk measures

Nonstatistical risk measures include sensitivities to variables used to value positions, such as credit spread sensitivities, interest rate basis point values and market values. These measures provide granular information on the Firm's market risk exposure. They are aggregated by line of business and by risk type, and are also used for monitoring internal market risk limits.

Loss advisories and profit and loss drawdowns

Loss advisories and profit and loss drawdowns are tools used to highlight trading losses above certain levels of risk tolerance. Profit and loss drawdowns are defined as the decline in net profit and loss since the year-to-date peak revenue level.

Earnings-at-risk

The VaR and stress-test measures described above illustrate the economic sensitivity of the Firm's Consolidated balance sheets to changes in market variables. The effect of interest rate exposure on the Firm's reported net income is also important as interest rate risk represents one of the Firm's significant market risks. Interest rate risk arises not only from trading activities but also from the Firm's traditional banking activities, which include extension of loans and credit facilities, taking deposits and issuing debt. The Firm evaluates its structural interest rate risk exposure through earnings-at-risk, which measures the extent to which changes in interest rates will affect the Firm's net interest income and interest rate-sensitive fees. Earnings-at-risk excludes the impact of CIB's markets-based activities and MSRs, as these sensitivities are captured under VaR.

The CIO, Treasury and Corporate ("CTC") Risk Committee establishes the Firm's structural interest rate risk policies and market risk limits, which are subject to approval by the DRPC. The CIO, working in partnership with the lines of business, calculates the Firm's structural interest rate risk profile and reviews it with senior management including the CTC Risk Committee and the Firm's ALCO. In addition, oversight of structural interest rate risk is managed through a dedicated risk function reporting to the CTC CRO. This risk function is responsible for providing independent oversight and governance around assumptions and establishing and monitoring limits for structural interest rate risk.

The Firm manages structural interest rate risk generally through its investment securities portfolio and interest rate derivatives.

Structural interest rate risk can occur due to a variety of factors, including:

- Differences in the timing among the maturity or repricing of assets, liabilities and off-balance sheet instruments
- Differences in the amounts of assets, liabilities and off-balance sheet instruments that are repricing at the same time
- Differences in the amounts by which short-term and long-term market interest rates change (for example, changes in the slope of the yield curve)
- The impact of changes in the maturity of various assets, liabilities or off-balance sheet instruments as interest rates change

The Firm manages interest rate exposure related to its assets and liabilities on a consolidated, firmwide basis. Business units transfer their interest rate risk to Treasury and CIO through a transfer-pricing system, which takes into account the elements of interest rate exposure that can be risk-managed in financial markets. These elements include asset and liability balances and contractual rates of interest, contractual principal payment schedules, expected prepayment experience, interest rate reset dates and maturities, rate indices used for repricing, and any interest rate ceilings or floors for adjustable rate products. All transfer-pricing assumptions are dynamically reviewed.

The Firm generates a net interest income baseline, and then conducts simulations of changes for interest rate-sensitive assets and liabilities denominated in U.S. dollar and other currencies ("non-U.S. dollar" currencies). Earnings-at-risk scenarios estimate the potential change in this net interest income baseline, excluding CIB's markets-based activities and MSRs, over the following 12 months, utilizing multiple assumptions. These scenarios may consider the impact on exposures as a result of changes in interest rates from baseline rates, as well as pricing sensitivities of deposits, optionality and changes in product mix. The scenarios include forecasted balance sheet changes, as well as modeled prepayment and reinvestment behavior, but do not include assumptions about actions which could be taken by the

Firm in response to any such instantaneous rate changes. For example, mortgage prepayment assumptions are based on current interest rates compared with underlying contractual rates, the time since origination, and other factors which are updated periodically based on historical experience. The Firm's earnings-at-risk scenarios are periodically evaluated and enhanced in response to changes in the composition of the Firm's balance sheet, changes in market conditions, improvements in the Firm's simulation and other factors.

Effective January 1, 2015, the Firm conducts earnings-at-risk simulations for assets and liabilities denominated in U.S. dollars separately from assets and liabilities denominated in non-U.S. dollar currencies in order to enhance the Firm's ability to monitor structural interest rate risk from non-U.S. dollar exposures.

The Firm's U.S. dollar sensitivity is presented in the table below. The result of the non-U.S. dollar sensitivity scenarios were not material to the Firm's earnings-at-risk at December 31, 2015.

JPMorgan Chase's 12-month pretax net interest income sensitivity profiles
(Excludes the impact of CIB's markets-based activities and MSRs)

(in billions)	Instantaneous change in rates			
December 31, 2015	+200 bps	+100 bps	-100 bps	-200 bps
U.S. dollar	$5.2	$3.1	NM [(a)]	NM [(a)]

(a) Downward 100- and 200-basis-points parallel shocks result in a federal funds target rate of zero and negative three- and six-month U.S. Treasury rates. The earnings-at-risk results of such a low probability scenario are not meaningful.

The Firm's benefit to rising rates on U.S. dollar assets and liabilities is largely a result of reinvesting at higher yields and assets repricing at a faster pace than deposits. The Firm's net U.S. dollar sensitivity profile at December 31, 2015 was not materially different than December 31, 2014.

Separately, another U.S. dollar interest rate scenario used by the Firm — involving a steeper yield curve with long-term rates rising by 100 basis points and short-term rates staying at current levels — results in a 12-month pretax benefit to net interest income, excluding CIB's markets-based activities and MSRs, of approximately $700 million. The increase in net interest income under this scenario reflects the Firm reinvesting at the higher long-term rates, with funding costs remaining unchanged. The result of the comparable non-U.S. dollar scenario was not material to the Firm.

Non-U.S. dollar FX Risk

Non-U.S. dollar FX risk is the risk that changes in foreign exchange rates affect the value of the Firm's assets or liabilities or future results. The Firm has structural non-U.S. dollar FX exposures arising from capital investments, forecasted expense and revenue, the investment securities portfolio and issuing debt in denominations other than the U.S. dollar. Treasury and CIO, working in partnership with the lines of business, primarily manage these risks on behalf of the Firm. Treasury and CIO may hedge certain of these risks using derivatives within risk limits governed by the CTC Risk Committee.

COUNTRY RISK MANAGEMENT

Country risk is the risk that a sovereign event or action alters the value or terms of contractual obligations of obligors, counterparties and issuers or adversely affects markets related to a particular country. The Firm has a comprehensive country risk management framework for assessing country risks, determining risk tolerance, and measuring and monitoring direct country exposures in the Firm. The Country Risk Management group is responsible for developing guidelines and policies for managing country risk in both emerging and developed countries. The Country Risk Management group actively monitors the various portfolios giving rise to country risk to ensure the Firm's country risk exposures are diversified and that exposure levels are appropriate given the Firm's strategy and risk tolerance relative to a country.

Country risk organization

The Country Risk Management group, part of the independent risk management function, works in close partnership with other risk functions to identify and monitor country risk within the Firm. The Firmwide Risk Executive for Country Risk reports to the Firm's CRO.

Country Risk Management is responsible for the following functions:

- Developing guidelines and policies consistent with a comprehensive country risk framework
- Assigning sovereign ratings and assessing country risks
- Measuring and monitoring country risk exposure and stress across the Firm
- Managing country limits and reporting trends and limit breaches to senior management
- Developing surveillance tools for early identification of potential country risk concerns
- Providing country risk scenario analysis

Country risk identification and measurement

The Firm is exposed to country risk through its lending, investing, and market-making activities, whether cross-border or locally funded. Country exposure includes activity with both government and private-sector entities in a country. Under the Firm's internal country risk management approach, country exposure is reported based on the country where the majority of the assets of the obligor, counterparty, issuer or guarantor are located or where the majority of its revenue is derived, which may be different than the domicile (legal residence) or country of incorporation of the obligor, counterparty, issuer or guarantor. Country exposures are generally measured by considering the Firm's risk to an immediate default of the counterparty or obligor, with zero recovery. Assumptions are sometimes required in determining the measurement and allocation of country exposure, particularly in the case of certain tranched credit derivatives. Different measurement approaches or assumptions would affect the amount of reported country exposure.

Under the Firm's internal country risk measurement framework:

- Lending exposures are measured at the total committed amount (funded and unfunded), net of the allowance for credit losses and cash and marketable securities collateral received
- Securities financing exposures are measured at their receivable balance, net of collateral received
- Debt and equity securities are measured at the fair value of all positions, including both long and short positions
- Counterparty exposure on derivative receivables is measured at the derivative's fair value, net of the fair value of the related collateral. Counterparty exposure on derivatives can change significantly because of market movements
- Credit derivatives protection purchased and sold is reported based on the underlying reference entity and is measured at the notional amount of protection purchased or sold, net of the fair value of the recognized derivative receivable or payable. Credit derivatives protection purchased and sold in the Firm's market-making activities is measured on a net basis, as such activities often result in selling and purchasing protection related to the same underlying reference entity; this reflects the manner in which the Firm manages these exposures

The Firm also has indirect exposures to country risk (for example, related to the collateral received on securities financing receivables or related to client clearing activities). These indirect exposures are managed in the normal course of business through the Firm's credit, market, and operational risk governance, rather than through Country Risk Management.

The Firm's internal country risk reporting differs from the reporting provided under the FFIEC bank regulatory requirements. For further information on the FFIEC's reporting methodology, see Cross-border outstandings on page 327.

Country risk stress testing

The country risk stress framework aims to identify potential losses arising from a country crisis by capturing the impact of large asset price movements in a country based on market shocks combined with counterparty specific assumptions. Country Risk Management periodically defines and runs ad hoc stress scenarios for individual countries in response to specific market events and sector performance concerns.

Country risk monitoring and control

The Country Risk Management group establishes guidelines for sovereign ratings reviews and limit management. Country stress and nominal exposures are measured under a comprehensive country limit framework. Country ratings and limits are actively monitored and reported on a regular basis. Country limit requirements are reviewed and approved by senior management as often as necessary, but at least annually. In addition, the Country Risk Management group uses surveillance tools, such as signaling models and ratings indicators, for early identification of potential country risk concerns.

Country risk reporting

The following table presents the Firm's top 20 exposures by country (excluding the U.S.) as of December 31, 2015. The selection of countries is based solely on the Firm's largest total exposures by country, based on the Firm's internal country risk management approach, and does not represent the Firm's view of any actual or potentially adverse credit conditions. Country exposures may fluctuate from period to period due to normal client activity and market flows.

Top 20 country exposures

	December 31, 2015			
(in billions)	Lending[(a)]	Trading and investing[(b)(c)]	Other[(d)]	Total exposure
United Kingdom	$23.8	$21.8	$1.1	$46.7
Germany	13.8	16.7	0.2	30.7
France	14.2	11.9	0.1	26.2
Japan	12.9	7.8	0.4	21.1
China	10.3	7.2	1.0	18.5
Canada	13.9	2.9	0.3	17.1
Australia	7.7	5.9	—	13.6
Netherlands	5.0	6.0	1.4	12.4
India	6.1	5.6	0.4	12.1
Brazil	6.2	4.9	—	11.1
Switzerland	6.7	0.9	1.9	9.5
Korea	4.3	3.3	0.1	7.7
Hong Kong	2.8	2.6	1.4	6.8
Italy	2.8	3.8	0.2	6.8
Luxembourg	6.4	0.1	—	6.5
Spain	3.2	2.1	0.1	5.4
Singapore	2.4	1.3	0.7	4.4
Sweden	1.7	2.5	—	4.2
Mexico	2.9	1.3	—	4.2
Belgium	1.7	2.3	—	4.0

(a) Lending includes loans and accrued interest receivable (net of collateral and the allowance for loan losses), deposits with banks, acceptances, other monetary assets, issued letters of credit net of participations, and unused commitments to extend credit. Excludes intra-day and operating exposures, such as from settlement and clearing activities.
(b) Includes market-making inventory, AFS securities, counterparty exposure on derivative and securities financings net of collateral and hedging.
(c) Includes single reference entity ("single-name"), index and tranched credit derivatives for which one or more of the underlying reference entities is in a country listed in the above table.
(d) Includes capital invested in local entities and physical commodity inventory.

MODEL RISK MANAGEMENT

Model risk

Model risk is the potential for adverse consequences from decisions based on incorrect or misused model outputs and reports.

The Firm uses models for many purposes including the valuation of positions and the measurement of risk. Valuation models are employed by the Firm to value certain financial instruments for which quoted prices may not be readily available. Valuation models may be employed as inputs into risk measurement models including VaR, regulatory capital, estimation of stress loss and the allowance for credit losses.

Models are owned by various functions within the Firm based on the specific purposes of such models. For example, VaR models and certain regulatory capital models are owned by the line of business-aligned risk management functions. Owners of models are responsible for the development, implementation and testing of their models, as well as referral of models to the Model Risk function for review and approval. Once models have been approved, model owners are responsible for the maintenance of a robust operating environment and must monitor and evaluate the performance of the models on an ongoing basis. Model owners may seek to enhance models in response to changes in the portfolios and in product and market developments, as well as to capture improvements in available modeling techniques and systems capabilities.

The Model Risk review and governance functions review and approve a wide range of models, including risk management, valuation, and regulatory capital models used by the Firm. Independent of the model owners, the Model Risk review and governance functions are part of the Firm’s Model Risk unit, and the Firmwide Model Risk Executive reports to the Firm’s CRO.

Models are tiered based on an internal standard according to their complexity, the exposure associated with the model and the Firm’s reliance on the model. This tiering is subject to the approval of the Model Risk function. A model review conducted by the Model Risk function considers the model’s suitability for the specific uses to which it will be put. The factors considered in reviewing a model include whether the model accurately reflects the characteristics of the product and its significant risks, the selection and reliability of model inputs, consistency with models for similar products, the appropriateness of any model-related adjustments, and sensitivity to input parameters and assumptions that cannot be observed from the market. When reviewing a model, the Model Risk function analyzes and challenges the model methodology and the reasonableness of model assumptions and may perform or require additional testing, including back-testing of model outcomes. Model reviews are approved by the appropriate level of management within the Model Risk function based on the relevant tier of the model.

Under the Firm’s Model Risk Policy, the Model Risk function reviews and approves new models, as well as material changes to existing models, prior to implementation in the operating environment. In certain circumstances, the head of the Model Risk function may grant exceptions to the Firm’s model risk policy to allow a model to be used prior to review or approval. The Model Risk function may also require the owner to take appropriate actions to mitigate the model risk if it is to be used in the interim. These actions will depend on the model and may include, for example, limitation of trading activity.

For a summary of valuations based on models, see Critical Accounting Estimates Used by the Firm and Note 3.

PRINCIPAL RISK MANAGEMENT

Principal investments are predominantly privately-held financial assets and instruments, typically representing an ownership or junior capital position, that have unique risks due to their illiquidity or for which there is less observable market or valuation data. Such investing activities are typically intended to be held over extended investment periods and, accordingly, the Firm has no expectation for short-term gain with respect to these investments. Principal investments cover multiple asset classes and are made either in stand-alone investing businesses or as part of a broader business platform. Asset classes include tax-oriented investments (e.g., affordable housing and alternative energy investments), private equity and various debt investments.

The Firm's principal investments are managed under various lines of business and are captured within the respective LOB's financial results. The Firm's approach to managing principal risk is consistent with the Firm's general risk governance structure. A Firmwide risk policy framework exists for all principal investing activities. All investments are approved by investment committees that include executives who are independent from the investing businesses. The Firm's independent control functions are responsible for reviewing the appropriateness of the carrying value of principal investments in accordance with relevant policies. Approved levels for such investments are established for each relevant business in order to manage the overall size of the portfolios. Industry, geographic, and position level concentration limits are in place and are intended to ensure diversification of the portfolios. The Firm also conducts stress testing on these portfolios using specific scenarios that estimate losses based on significant market moves and/or other risk events.

OPERATIONAL RISK MANAGEMENT

Operational risk is the risk of loss resulting from inadequate or failed processes or systems, human factors or due to external events that are neither market- nor credit-related. Operational risk is inherent in the Firm's activities and can manifest itself in various ways, including fraudulent acts, business interruptions, inappropriate behavior of employees, failure to comply with applicable laws and regulations or failure of vendors to perform in accordance with their arrangements. These events could result in financial losses, litigation and regulatory fines, as well as other damage to the Firm. The goal is to keep operational risk at appropriate levels, in light of the Firm's financial strength, the characteristics of its businesses, the markets in which it operates, and the competitive and regulatory environment to which it is subject.

Overview

To monitor and control operational risk, the Firm maintains an Operational Risk Management Framework ("ORMF") designed to enable the Firm to maintain a sound and well-controlled operational environment. The four main components of the ORMF include: governance, risk identification and assessment, monitoring and reporting, and measurement.

Risk Management is responsible for prescribing the ORMF to the lines of business and corporate functions and for providing independent oversight of its implementation. The lines of business and corporate functions are responsible for implementing the ORMF. The Firmwide Oversight and Control Group ("O&C"), which consists of dedicated control officers within each of the lines of business and corporate functional areas, as well as a central oversight team, is responsible for day to day execution of the ORMF.

Operational risk management framework

The components of the Operational Risk Management Framework are:

Governance

The Firm's operational risk governance function reports to the Firm's CRO and is responsible for defining the ORMF and establishing the firmwide operational risk management governance structure, policies and standards. The Firmwide Risk Executive for Operational Risk Governance, a direct report of the CRO, works with the line of business CROs to provide independent oversight of the implementation of the ORMF across the Firm. Operational Risk Officers ("OROs"), who report to the LOB Chief Risk Officers or to the Firmwide Risk Executive for Operational Risk Governance, are independent of the lines of business and corporate functions, and O&C. The OROs provide oversight of the implementation of the ORMF within in each line of business and corporate function.

Line of business, corporate function and regional control committees oversee the operational risk and control environments of their respective businesses, functions or regions. These committees escalate operational risk issues to the FCC, as appropriate. For additional information on the Firmwide Control Committee, see Enterprise Risk Management on pages 107–111.

Risk Identification and Self-Assessment

In order to evaluate and monitor operational risk, the lines of business and corporate functions utilize several processes to identify, assess, mitigate and manage operational risk. Firmwide standards are in place for each of these processes and set the minimum requirements for how they must be applied.

The Firm's risk and control self-assessment ("RCSA") process and supporting architecture requires management to identify material inherent operational risks, assess the design and operating effectiveness of relevant controls in place to mitigate such risks, and evaluate residual risk. Action plans are developed for control issues that are identified, and businesses are held accountable for tracking and resolving issues on a timely basis. Risk Management performs an independent challenge of the RCSA program including residual risk results.

The Firm also tracks and monitors operational risk events which are analyzed by the responsible businesses and corporate functions. This enables identification of the root causes of the operational risk events and evaluation of the associated controls.

Furthermore, lines of business and corporate functions establish key risk indicators to manage and monitor operational risk and the control environment. These assist in the early detection and timely escalation of issues or events.

Risk monitoring and reporting

Operational risk management and control reports provide information, including actual operational loss levels, self-assessment results and the status of issue resolution to the lines of business and senior management. In addition, key control indicators and operating metrics are monitored against targets and thresholds. The purpose of these reports is to enable management to maintain operational risk at appropriate levels within each line of business, to escalate issues and to provide consistent data aggregation across the Firm’s businesses and functions.

Measurement

Two standard forms of operational risk measurement include operational risk capital and operational risk losses under baseline and stressed conditions.

The Firm's operational risk capital methodology incorporates the four required elements of the Advanced Measurement Approach under the Basel III framework:

- Internal losses,
- External losses,
- Scenario analysis, and
- Business environment and internal control factors.

The primary component of the operational risk capital estimate is the result of a statistical model, the Loss Distribution Approach ("LDA"), which simulates the frequency and severity of future operational risk losses based on historical data. The LDA model is used to estimate an aggregate operational risk loss over a one-year time horizon, at a 99.9% confidence level. The LDA model incorporates actual internal operational risk losses in the quarter following the period in which those losses were realized, and the calculation generally continues to reflect such losses even after the issues or business activities giving rise to the losses have been remediated or reduced.

The calculation is supplemented by external loss data as needed, as well as both management's view of plausible tail risk, which is captured as part of the Scenario Analysis process, and evaluation of key LOB internal control metrics (BEICF). The Firm may further supplement such analysis to incorporate feedback from its bank regulators.

The Firm considers the impact of stressed economic conditions on operational risk losses and a forward looking view of material operational risk events that may occur in a stressed environment. The Firm's operational risk stress testing framework is utilized in calculating results for the Firm's CCAR, ICAAP and Risk Appetite processes.

For information related to operational risk RWA, CCAR or ICAAP, see Capital Management section, pages 149–158.

Insurance

One of the ways operational loss may be mitigated is through insurance maintained by the Firm. The Firm purchases insurance to be in compliance with local laws and regulations (e.g., workers compensation), as well as to serve other needs (e.g., property loss and public liability). Insurance may also be required by third parties with whom the Firm does business. The insurance purchased is reviewed and approved by senior management.

Cybersecurity

The Firm devotes significant resources maintaining and regularly updating its systems and processes that are designed to protect the security of the Firm's computer systems, software, networks and other technology assets against attempts by unauthorized parties to obtain access to confidential information, destroy data, disrupt or degrade service, sabotage systems or cause other damage.

Third parties with which the Firm does business or that facilitate the Firm's business activities (e.g., vendors, exchanges, clearing houses, central depositories, and financial intermediaries) could also be sources of cybersecurity risk to the Firm, including with respect to breakdowns or failures of their systems, misconduct by the employees of such parties, or cyberattacks which could affect their ability to deliver a product or service to the Firm or result in lost or compromised information of the Firm or its clients. In addition, customers with which or whom the Firm does business can also be sources of cybersecurity risk to the Firm, particularly when their activities and systems are beyond the Firm's own security and control systems. Customers will generally be responsible for losses incurred due to their own failure to maintain the security of their own systems and processes.

The Firm and several other U.S. financial institutions have experienced significant distributed denial-of-service attacks from technically sophisticated and well-resourced unauthorized parties which are intended to disrupt online banking services. The Firm and its clients are also regularly targeted by unauthorized parties using malicious code and viruses. On September 10, 2014, the Firm disclosed that a cyberattack against the Firm had occurred. The cyberattacks experienced to date have not resulted in any material disruption to the Firm's operations nor have they had a material adverse effect on the Firm's results of operations. The Firm's Board of Directors and the Audit Committee are regularly apprised regarding the cybersecurity policies and practices of the Firm as well as the Firm's efforts regarding significant cybersecurity events.

Cybersecurity attacks, like the one experienced by the Firm, highlight the need for continued and increased cooperation among businesses and the government, and the Firm continues to work to strengthen its partnerships with the appropriate government and law enforcement agencies and other businesses, including the Firm’s third-party service providers, in order to understand the full spectrum of cybersecurity risks in the environment, enhance defenses and improve resiliency against cybersecurity threats.

The Firm has established, and continues to establish, defenses to mitigate other possible future attacks. To enhance its defense capabilities, the Firm increased cybersecurity spending from approximately $250 million in 2014, to approximately $500 million in 2015, and expects the spending to increase to more than $600 million in 2016. Enhancements include more robust testing, advanced analytics, improved technology coverage, strengthened access management and controls and a program to increase employee awareness about cybersecurity risks and best practices.

Business and technology resiliency

JPMorgan Chase’s global resiliency and crisis management program is intended to ensure that the Firm has the ability to recover its critical business functions and supporting assets (i.e., staff, technology and facilities) in the event of a business interruption, and to remain in compliance with global laws and regulations as they relate to resiliency risk. The program includes corporate governance, awareness and training, as well as strategic and tactical initiatives aimed to ensure that risks are properly identified, assessed, and managed.

The Firm has established comprehensive tracking and reporting of resiliency plans in order to proactively anticipate and manage various potential disruptive circumstances such as severe weather and flooding, technology and communications outages, cyber incidents, mass transit shutdowns and terrorist threats, among others. The resiliency measures utilized by the Firm include backup infrastructure for data centers, a geographically distributed workforce, dedicated recovery facilities, providing technological capabilities to support remote work capacity for displaced staff and accommodation of employees at alternate locations. JPMorgan Chase continues to coordinate its global resiliency program across the Firm and mitigate business continuity risks by reviewing and testing recovery procedures. The strength and proficiency of the Firm's global resiliency program has played an integral role in maintaining the Firm's business operations during and quickly after various events in 2015 that have resulted in business interruptions, such as severe winter weather and flooding in the U.S. and various global protest-related activities.

LEGAL RISK MANAGEMENT

Legal risk is the risk of loss or imposition of damages, fines, penalties or other liability arising from failure to comply with a contractual obligation or to comply with laws or regulations to which the Firm is subject.

Overview

In addition to providing legal services and advice to the Firm, and communicating and helping the lines of business adjust to the legal and regulatory changes they face, including the heightened scrutiny and expectations of the Firm's regulators, the global Legal function is responsible for working with the businesses and corporate functions to fully understand and assess their adherence to laws and regulations. In particular, Legal assists Oversight & Control, Risk, Finance, Compliance and Internal Audit in their efforts to ensure compliance with all applicable laws and regulations and the Firm's corporate standards for doing business. The Firm's lawyers also advise the Firm on potential legal exposures on key litigation and transactional matters, and perform a significant defense and advocacy role by defending the Firm against claims and potential claims and, when needed, pursuing claims against others.

Governance and oversight

The Firm's General Counsel reports to the CEO and is a member of the Operating Committee, the Firmwide Risk Committee and the Firmwide Control Committee. The General Counsel's leadership team includes a General Counsel for each line of business, the heads of the Litigation and Corporate & Regulatory practices, as well as the Firm's Corporate Secretary. Each region (e.g., Latin America, Asia Pacific) has a General Counsel who is responsible for managing legal risk across all lines of business and functions in the region.

Legal works with various committees (including new business initiative and reputation risk committees) and the Firm's businesses to protect the Firm's reputation beyond any particular legal requirements. In addition, it adv