

JPMORGAN CHASE & Co.
PILLAR 3 REGULATORY CAPITAL DISCLOSURES

For the quarterly period ended December 31, 2014

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INTRODUCTION

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 \$2.6 trillion in assets and \$232.1 billion in stockholders’ equity as of December 31, 2014. 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.

Pillar 3 report overview

This report provides information on the Firm’s capital structure, capital adequacy, risk exposures, and risk-weighted assets (“RWA”). This report describes the internal models used to translate risk exposures into required capital.

This report should be read in conjunction with JPMorgan Chase’s Annual Report on Form 10-K for the year ended December 31, 2014 (“2014 Form 10-K”), which has been filed with the U.S. Securities and Exchange Commission (“SEC”).

Basel III overview

The Basel framework consists of a three “Pillar” approach:

- Pillar 1 establishes minimum capital requirements, defines eligible capital instruments, and prescribes rules for calculating RWA.
- Pillar 2 requires banks to have an internal capital adequacy assessment process and requires that banking supervisors evaluate each bank’s overall risk profile as well as its risk management and internal control processes.
- Pillar 3 encourages market discipline through disclosure requirements which allow market participants to assess the risk and capital profiles of banks.

The U.S. capital requirements follow the Capital Accord of the Basel Committee, as amended from time to time. Prior to January 1, 2014, the Firm and its banking subsidiaries were subject to the capital requirements of Basel I and Basel 2.5. Effective January 1, 2014, the Firm became subject to Basel III (which incorporates Basel 2.5).

Basel III, for U.S. bank holding companies and banks, revises, among other things, the definition of capital and introduces a new common equity Tier 1 capital (“CET1 capital”) requirement; presents two comprehensive methodologies for calculating risk-weighted assets (“RWA”), a general (Standardized) approach, which replaces Basel I RWA (“Basel III Standardized”) and an advanced approach, which replaces Basel II RWA (“Basel III Advanced”); and sets out minimum capital ratios and overall capital adequacy standards. Certain of the requirements of Basel III are subject to phase-in periods that began January 1, 2014 and continue through the end of 2018 (“Transitional period”). Both Basel III Standardized and Basel III Advanced became effective commencing January 1, 2014 for large and internationally active U.S. bank holding companies and banks, including the Firm and its insured depository institution (“IDI”) subsidiaries.

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 conducts any number of other services or activities, the Firm takes on some degree of risk. The Firm's overall objective in managing risk is to protect the safety and soundness of the Firm, avoid excessive risk taking, and manage and balance risk in a manner that serves the interest of our clients, customers and shareholders.

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, fiduciary and reputation risk.

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 line of business and corporate functions; and
- Firmwide structures for risk governance.

Firmwide Risk Management is overseen and managed on an enterprise-wide basis. The Firm's Chief Executive Officer ("CEO"), Chief Financial Officer ("CFO"), Chief Risk Officer ("CRO") and Chief Operating Officer ("COO") develop and set the risk management framework and governance structure for the Firm, which is intended to provide comprehensive controls and ongoing management of the major risks inherent in the Firm's business activities. The Firm's risk management framework is intended to create a culture of transparency, awareness and personal responsibility through reporting, collaboration, discussion, escalation and sharing of information. The CEO, CFO, CRO and COO are ultimately responsible and accountable to the Firm's Board of Directors.

The Firm's risk culture strives for continual improvement through ongoing employee training and development, as well as talent retention. The Firm also approaches its incentive compensation arrangements through an integrated risk, compensation and financial management framework to encourage a culture of risk awareness and personal accountability.

The Firm has identified various risks that are inherent in its business activities. These include capital risk, compliance risk, country risk, credit risk, fiduciary risk, legal risk, liquidity risk, market risk, model risk, non-USD FX risk, operational risk, principal risk, reputation risk, and structural interest rate risk.

Risk governance

The Board of Directors provides oversight of risk principally through the Board of Directors' Risk Policy Committee ("DRPC"), Audit Committee and, with respect to compensation, Compensation & Management Development Committee. Each committee of the Board oversees reputation risk issues within its scope of responsibility.

The CRO is the head of the Risk organization and is responsible for the overall direction of Risk oversight. The CRO is supported by individuals and organizations that align to lines of business and corporate functions, as well as others that align to specific risk types.

The Firm's Risk Management Organization and other Firmwide functions with risk-related responsibilities (i.e., Regulatory Capital Management Office ("RCMO"), Firmwide Oversight and Control Group, Valuation Control Group ("VCG"), Legal and Compliance) provide independent oversight of the monitoring, evaluation and escalation of risk.

The Firm-level risk appetite parameters are set and approved by the Firm's CEO, CFO, CRO and COO ("functional heads"). LOB-level risk appetite parameters are set by the LOB CEO, CFO, and CRO and are approved by the Firm's functional heads. Firmwide LOB diversification allows the sum of the LOBs' loss tolerances to be greater than the Firmwide loss tolerance.

- Refer to pages 105-109 of the 2014 Form 10-K for more information on Enterprise-Wide Risk Management.

REGULATORY CAPITAL

Basel III revises Basel I and II by narrowing the definition of capital and increasing the capital requirements for specific exposures. Under Basel III, CET1 capital predominantly includes common stockholders' equity (including capital for accumulated other comprehensive income ("AOCI") related to debt and equity securities classified as available-for-sale ("AFS") as well as for defined benefit pension and other post-retirement employee benefit ("OPEB") plans), less certain deductions for goodwill, mortgage servicing rights ("MSRs") and deferred tax assets that arise from net operating loss ("NOL") and tax credit carryforwards. Tier 1 capital is predominantly comprised of CET1 capital as well as perpetual preferred stock. Tier 2 capital includes long-term debt qualifying as Tier 2 and qualifying allowance for credit losses. Total capital is Tier 1 capital plus Tier 2 capital. The revisions to CET1 capital, Tier 1 capital and Tier 2 capital are subject to phase-in periods that began January 1, 2014, and continue through the end of 2018, and during that period, CET1 capital, Tier 1 capital and Tier 2 capital represent Basel III Transitional capital.

Components of capital

A reconciliation of total stockholders' equity to CET1 capital, Tier 1 capital, Tier 2 capital, and Total capital is presented in the table below.

- Refer to the Consolidated balance sheet on page 174 of the 2014 Form 10-K for the components of total stockholders' equity.

December 31, 2014 (in millions)	Basel III Advanced Transitional
Total stockholders' equity	\$ 232,065
Less: Preferred stock	20,063
Common stockholders' equity	212,002
Less: AOCI adjustment ^(a)	1,870
CET1 capital before regulatory adjustments	210,132
Less:	
Goodwill net of deferred tax liabilities	44,925
Other CET1 capital adjustments	443
CET1 capital	164,764
Preferred stock	20,063
Other Tier 1 capital adjustments	3,090
Less: Tier 1 capital deductions	1,285
Total Tier 1 capital	186,632
Long-term debt and other instruments qualifying as Tier 2 capital	17,504
Qualifying allowance for credit losses	4,266
Other Tier 2 capital adjustments	2,685
Less: Tier 2 capital deductions	65
Total Tier 2 capital	24,390
Total capital	\$ 211,022

(a) The adjustment to AOCI reflects the transitional treatment over the phase-in period.

Terms of capital instruments

The terms and conditions of the Firm's capital instruments are described in the Firm's SEC filings.

- Refer to Note 22 on page 279, and Note 23 on pages 279-280, respectively, of the 2014 Form 10-K for additional information on preferred stock and common stock.
- Refer to Note 21 on page 277 of the 2014 Form 10-K for information on trust preferred securities.
- Refer to the Supervision and regulation section in Part I, Item 1 on pages 1-7 of the 2014 Form 10-K.

Restrictions on capital and transfer of funds

At January 1, 2015, JPMorgan Chase's banking subsidiaries could pay, in the aggregate, approximately \$31 billion in dividends to their respective bank holding companies without the prior approval of their relevant banking regulators. The capacity to pay dividends in 2015 will be supplemented by the banking subsidiaries' earnings during the year.

The bank subsidiaries of JPMorgan Chase are subject to certain restrictions imposed by federal law on extensions of credit to, and certain other transactions with, JPMorgan Chase and certain other affiliates, and on investments in stock or securities of JPMorgan Chase and affiliates.

- Refer to Note 27 on page 284 of the 2014 Form 10-K for information on restrictions on cash and intercompany funds transfers.

Capital management

For additional information on regulatory capital and capital actions, refer to the Capital Management section on pages 146-155 of the 2014 Form 10-K. The Capital Management section of the 2014 Form 10-K reflects results calculated under Basel III Advanced Fully Phased-In, whereas the numbers presented in this report are calculated under Basel III Advanced Transitional, except where explicitly noted. As a result, there are differences in the amounts presented in the two documents.

Risk-weighted assets

Basel III establishes two comprehensive methodologies for calculating RWA (a Standardized approach and an Advanced approach) which include capital requirements for credit risk, market risk, and in the case of Basel III Advanced, also operational risk. Key differences in the calculation of credit risk RWA between the Standardized and Advanced approaches are that for Basel III Advanced, credit risk RWA is based on risk-sensitive approaches which largely rely on the use of internal credit models and parameters, whereas for Basel III Standardized, credit risk RWA is generally based on supervisory risk-weightings which vary primarily by counterparty type and asset class. Market risk RWA is calculated on a generally consistent basis between Basel III Standardized and Basel III Advanced, both of which incorporate the requirements set forth in Basel 2.5. In addition to the RWA calculated under these methodologies, the Firm may supplement such amounts to incorporate management judgment and feedback from its bank regulators.

Covered position definition

The covered position definition determines which positions are subject to market risk RWA treatment and, consequently, which positions are subject to credit risk RWA.

Basel III defines a covered position as:

- (1) A trading asset or trading liability that meets both of the following conditions:
 - The position is held for the purpose of short-term resale or with the intent to benefit from actual or expected short-term price movements, or to lock in arbitrage profits;
 - The position is free of any restrictive covenants on its tradability or the Firm is able to hedge the material risk elements of the position in a two-way market;
- (2) A hedge of a covered position; or
- (3) A foreign exchange or commodity position, regardless of whether the position is a trading position (excluding structural foreign currency positions with prior supervisory approval).

Basel III specifies that characterization of an asset or liability as “trading” under accounting principles generally accepted in the U.S. (“U.S. GAAP”) would not on its own determine whether the asset or liability meets the definition of a covered position.

Throughout this report, covered positions are also referred to as “trading book” positions. Similarly, non-covered positions are referred to as “banking book” positions. Both covered and non-covered derivative transactions receive counterparty credit risk RWA.

Components of risk-weighted assets

Basel III Advanced rules classify capital requirements into three broad categories:

- Credit risk RWA covers the risk of unexpected losses due to obligor, counterparty, or issuer default, and in certain cases adverse changes in credit quality. Credit risk RWA includes retail credit risk, wholesale credit risk, counterparty credit risk, certain securitization exposures, equity investments, other assets, and the credit valuation adjustment (CVA) capital charge.
- Market risk RWA covers the risk of losses due to adverse movements in market conditions and idiosyncratic events.
- Operational risk RWA covers the risk of loss resulting from inadequate or failed processes or systems or due to external events that are neither market- nor credit-related.

The following table presents the Firm’s total risk-weighted assets under Basel III Advanced Transitional at December 31, 2014.

(in millions)		Basel III Advanced Transitional RWA December 31, 2014
Credit risk		
Retail exposures	\$	273,469
Wholesale exposures		409,267
Counterparty exposures		117,995
Securitization exposures ^(a)		41,848
Equity exposures		43,012
Other exposures ^(b)		82,582
CVA		61,039
Total credit risk		1,029,212
Total market risk		179,028
Total operational risk		400,000
Total RWA	\$	1,608,240

(a) Represents banking book securitization RWA only.

(b) Includes other assets, non-material portfolios, and unsettled transactions.

Capital adequacy

A strong capital position is essential to the Firm's business strategy and competitive position. The Firm's capital strategy focuses on long-term stability, which enables the Firm to build and invest in market-leading businesses, even in a highly stressed environment.

- Refer to the Capital Management section on pages 146–155 of the 2014 Form 10-K for information on capital strategy and governance.

The Basel III framework applies to JPMorgan Chase & Co. The basis of consolidation used for regulatory reporting is the same as that used under U.S. GAAP. There are no entities within JPMorgan Chase that are deconsolidated, or whose capital is deducted except for a few insurance subsidiaries.

Minimum capital requirements

Under the risk-based capital ("RBC") guidelines of the Federal Reserve, JPMorgan Chase is required to maintain minimum ratios of Tier 1 and Total capital to risk-weighted assets, as well as minimum leverage ratios (which are defined as Tier 1 capital divided by adjusted quarterly average assets). Failure to meet these minimum requirements could cause the Federal Reserve to take action. Bank subsidiaries also are subject to these capital requirements by their respective primary regulators.

The following table presents the minimum ratios to which the Firm and its national bank subsidiaries are subject as of December 31, 2014.

	Minimum capital ratios ^(a)	Well-capitalized ratios ^(a)
Capital ratios		
CET1	4.0%	NA
Tier 1	5.5	6.0%
Total	8.0	10.0
Tier 1 leverage	4.0	5.0 ^(b)

(a) As defined by the regulations issued by the Federal Reserve, Office of the Comptroller of the Currency ("OCC") and FDIC. The CET1 capital ratio became a relevant measure of capital under the prompt corrective action requirements on January 1, 2015.

(b) Represents requirements for bank subsidiaries pursuant to regulations issued under the FDIC Improvement Act. There is no Tier 1 leverage component in the definition of a well-capitalized bank holding company.

As of December 31, 2014, JPMorgan Chase and all of its U.S. banking subsidiaries were well capitalized and met all capital requirements to which each was subject. Capital ratios for the Firm's significant national bank subsidiaries are presented on the following page.

In addition to its U.S. banking subsidiaries, JPMorgan Chase also has other regulated subsidiaries, all of which meet applicable capital requirements.

Collins Amendment

The capital adequacy of the Firm and its national bank subsidiaries is evaluated against the Basel III approach (Standardized or Advanced) which results, for each quarter beginning with the second quarter of 2014, in the lower ratio (the "Collins Floor"), as required by the Collins Amendment of the Wall Street Reform and Consumer Protection Act (the "Dodd-Frank Act").

Internal Capital Adequacy Assessment Process

Semiannually, the Firm completes the Internal Capital Adequacy Assessment Process ("ICAAP"), which provides management with a view of the impact of severe and unexpected events on earnings, balance sheet positions, reserves and capital. The Firm's ICAAP integrates stress testing protocols with capital planning.

The process assesses the potential impact of alternative economic and business scenarios on the Firm's earnings and capital. Economic scenarios, and the parameters underlying those scenarios, are defined centrally and applied uniformly across the businesses. These scenarios are articulated in terms of macroeconomic factors, which are key drivers of business results; global market shocks, which generate short-term but severe trading losses; and idiosyncratic operational risk events. The scenarios are intended to capture and stress key vulnerabilities and idiosyncratic risks facing the Firm. However, when defining a broad range of scenarios, realized events can always be worse. Accordingly, management considers additional stresses outside these scenarios, as necessary. ICAAP results are reviewed by management and the Board of Directors.

Comprehensive Capital Analysis and Review ("CCAR")

The Federal Reserve requires large bank holding companies, including the Firm, to submit a capital plan on an annual basis. The Federal Reserve uses the CCAR and Dodd-Frank Act stress test processes to ensure that large bank holding companies have sufficient capital during periods of economic and financial stress, and have robust, forward-looking capital assessment and planning processes in place that address each bank holding company's unique risks to enable them to have the ability to absorb losses under certain stress scenarios.

Through the CCAR, the Federal Reserve evaluates each bank holding company's capital adequacy and internal capital adequacy assessment processes, as well as its plans to make capital distributions, such as dividend payments or stock repurchases.

The Firm's CCAR process is integrated into and employs the same methodologies utilized in the Firm's ICAAP process.

Capital ratios for major U.S. legal entities

The following tables present the regulatory capital, risk-weighted assets and risk-based capital ratios for JPMorgan Chase and its significant national bank subsidiaries under both Basel III Standardized Transitional and Basel III Advanced Transitional at December 31, 2014.

JPMorgan Chase & Co. ^(d)		
December 31, 2014 (in millions, except ratios)	Basel III Standardized Transitional	Basel III Advanced Transitional
Regulatory capital		
CET1 capital	\$ 164,764	\$ 164,764
Tier 1 capital ^(a)	186,632	186,632
Total capital ^(e)	221,563	211,022
Assets		
Risk-weighted	\$ 1,472,602	\$ 1,608,240
Adjusted average ^(b)	2,465,414	2,465,414
Capital ratios^(c)		
CET1	11.2%	10.2%
Tier 1 ^(a)	12.7	11.6
Total	15.0	13.1
Tier 1 leverage	7.6	7.6

JPMorgan Chase Bank, N.A. ^(d)		
December 31, 2014 (in millions, except ratios)	Basel III Standardized Transitional	Basel III Advanced Transitional
Regulatory capital		
CET1 capital	\$ 156,898	\$ 156,898
Tier 1 capital ^(a)	157,222	157,222
Total capital	173,659	166,662
Assets		
Risk-weighted	\$ 1,230,358	\$ 1,330,175
Adjusted average ^(b)	1,968,131	1,968,131
Capital ratios^(c)		
CET1	12.8%	11.8%
Tier 1 ^(a)	12.8	11.8
Total	14.1	12.5
Tier 1 leverage	8.0	8.0

Chase Bank USA, N.A. ^(d)		
December 31, 2014 (in millions, except ratios)	Basel III Standardized Transitional	Basel III Advanced Transitional
Regulatory capital		
CET1 capital	\$ 14,556	\$ 14,556
Tier 1 capital ^(a)	14,556	14,556
Total capital	20,517	19,206
Assets		
Risk-weighted	\$ 103,468	\$ 157,565
Adjusted average ^(b)	128,111	128,111
Capital ratios^(c)		
CET1	14.1%	9.2%
Tier 1 ^(a)	14.1	9.2
Total	19.8	12.2
Tier 1 leverage	11.4	11.4

(a) At December 31, 2014, trust preferred securities included in Basel III Tier 1 capital were \$2.7 billion and \$300 million for JPMorgan Chase and JPMorgan Chase Bank, N.A., respectively. At December 31, 2014, Chase Bank USA, N.A. had no trust preferred securities.

(b) Adjusted average assets, for purposes of calculating the leverage ratio, includes total quarterly average assets adjusted for unrealized gains/ (losses) on securities, less deductions for disallowed goodwill and other intangible assets, investments in certain subsidiaries, and the total adjusted carrying value of nonfinancial equity investments that are subject to deductions from Tier 1 capital.

(c) For each of the risk-based capital ratios the lower of the Standardized Transitional or Advanced Transitional ratio represents the Collins Floor.

(d) Asset and capital amounts for JPMorgan Chase's banking subsidiaries reflect intercompany transactions; whereas the respective amounts for JPMorgan Chase reflect the elimination of intercompany transactions.

(e) Total capital for JPMorgan Chase & Co. includes \$1.1 billion of surplus capital in insurance subsidiaries.

CREDIT RISK

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. The consumer credit portfolio refers to exposures held by Consumer & Community Banking as well as prime mortgage loans held in the Asset Management and the Corporate segments. The consumer credit portfolio consists primarily of residential real estate loans, credit card loans, auto loans, business banking loans, and student loans. The wholesale credit portfolio refers primarily to exposures held by Corporate & Investment Bank, Commercial Banking, Asset Management, and Corporate.

In addition to providing credit to clients, the Firm engages in client-related activities that give rise to counterparty credit risk such as securities financing, margin lending, and market-making activities in derivatives.

In addition to counterparty default risk, Basel III introduced a capital charge for credit valuation adjustments (“CVA”) which reflect the credit quality of a counterparty in the valuation of derivatives.

Credit risk is also inherent in the Firm’s investment securities portfolio held by Treasury and Chief Investment Office (“CIO”) in connection with its asset-liability management objectives. Investment securities, as well as deposits with banks, are classified as wholesale exposures for RWA reporting.

For information on risk management policies and practices and accounting policies related to these exposures:

- Refer to Credit Risk Management on pages 110-111 of the 2014 Form 10-K.
- Refer to the Notes to the Consolidated Financial Statements beginning on page 177 of the 2014 Form 10-K. Specific page references are contained in the Appendix of this report.

Summary of credit risk RWA

Credit risk RWA includes retail, wholesale, and counterparty credit exposures described in this section, as well as securitization and equity exposures in the banking book. Other exposures such as non-material portfolios, unsettled transactions, and other assets that are not classified elsewhere are also included. The following table presents the Firm’s total credit risk RWA at December 31, 2014.

December 31, 2014 (in millions)	Basel III Advanced Transitional RWA
Retail exposures	\$ 273,469
Wholesale exposures	409,267
Counterparty exposures	117,995
Securitization exposures	41,848
Equity exposures	43,012
Other exposures	82,582
CVA	61,039
Total credit risk RWA	\$ 1,029,212

Credit risk RWA rollforward

The following table presents the changes in credit risk RWA under Basel III Advanced Transitional for the three months ended December 31, 2014. The amounts in the rollforward categories are estimates, based on the predominant driver of the change.

Three months ended December 31, 2014 (in billions)	Basel III Advanced Transitional RWA
September 30, 2014	\$ 1,026
Rule changes ^(a)	–
Model & data changes ^(b)	23
Portfolio runoff ^(c)	(9)
Movement in portfolio levels ^(d)	(11)
Change in RWA	3
December 31, 2014	\$ 1,029

- (a) Rule changes refer to movements in levels of RWA as a result of changes in regulations.
- (b) Model & data changes refer to movements in levels of RWA as a result of revised methodologies and/or treatment per regulatory guidance (exclusive of rule changes).
- (c) Portfolio runoff reflects lower loan balances in Mortgage Banking and reduced risk from position rollofs in legacy portfolios.
- (d) Movement in portfolio levels refers to changes in book size, composition, credit quality, and market movements.

Credit risk exposures

Credit risk exposures as reported under U.S. GAAP for the year period ended December 31, 2014 are contained in the 2014 Form 10-K. Specific references are listed below.

Traditional credit products

- Refer to Credit Risk Management beginning on page 110 in the 2014 Form 10-K for credit-related information on the Consumer and Wholesale portfolios.
- Refer to Note 14 on pages 238-257 of the 2014 Form 10-K for the distribution of loans by geographic region and industry.
- Refer to Note 29 on pages 287-293 of the 2014 Form 10-K for the contractual amount and geographic distribution of lending-related commitments.

Counterparty credit risk

- Refer to Note 6 on pages 203-215 of the 2014 Form 10-K for gross positive fair value, netting benefits, and net exposure of derivative receivables.
- Refer to Derivative contracts on pages 125-127 of the 2014 Form 10-K for credit derivatives used in credit portfolio management activities.
- Refer to Note 13 on pages 235-237 of the 2014 Form 10-K for gross and net securities purchased under resale agreements and securities borrowed.
- Refer to the Consumer Credit Portfolio section on pages 113-119, and to the Wholesale Credit Portfolio section on pages 120-127 of the 2014 Form 10-K for margin loans asset balance.

Investment securities

- Refer to Note 12 on pages 230-234 of the 2014 Form 10-K for the investment securities portfolio by issuer type.

Country risk

- Refer to pages 137-138 of the 2014 Form 10-K for the top 20 country exposures.

Allowance for credit losses

- Refer to Allowance for Credit Losses on pages 128-130 of the 2014 Form 10-K for a summary of changes in the allowance for loan losses and allowance for lending-related commitments.
- Refer to Note 15 on pages 258-261 of the 2014 Form 10-K for allowance for credit losses and loans and lending-related commitments by impairment methodology.

Average balances

- Refer to pages 314-315 of the 2014 Form 10-K for the Consolidated average balance sheet.

Credit risk monitoring

Concentrations of credit risk arise when a number of customers 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.

JPMorgan Chase regularly monitors various segments of its credit portfolios to assess potential concentration risks and to obtain collateral when deemed necessary. Senior management is significantly involved in the credit approval and review process, and risk levels are adjusted as needed to reflect the Firm's risk appetite.

In the Firm's consumer portfolio, concentrations are evaluated primarily by product and by U.S. geographic region, with a key focus on trends and concentrations at the portfolio level, where potential risk concentrations can be remedied through changes in underwriting policies and portfolio guidelines.

In the wholesale portfolio, risk concentrations are evaluated primarily by industry and monitored regularly on both an aggregate portfolio level and on an individual customer basis. The Firm's wholesale exposure is managed through loan syndications and participations, loan sales, securitizations, credit derivatives, master netting agreements, and collateral and other risk-reduction techniques.

RETAIL CREDIT RISK

The retail portfolio is a scored portfolio. For the retail portfolio, credit loss estimates are based on statistical analysis of credit losses over discrete periods of time and are estimated using 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.

The population of exposures subject to retail capital treatment for regulatory reporting substantially overlaps with the consumer credit portfolio reflected in the Firm's SEC disclosures. The retail population consists of all scored exposures, certain residential mortgages booked as trading assets (that do not meet the definition of a covered position) and certain wholesale loans under \$1 million as required by Basel III.

The retail capital population excludes certain risk-rated business banking and auto dealer loans; these are subject to wholesale capital treatment.

Risk parameter estimation

The internal ratings process for retail exposures covers the assignment of individual loan, line of credit or off-balance exposures into homogeneous segments defined by predominant product and borrower risk characteristics. The criteria for grouping loans into segments was developed using a combination of empirical analysis and management judgment. Predominant risk drivers used for segmentation vary by portfolio and exposure type, but include loan characteristics such as product type, collateral type and loan-to-value, exposure size, origination channel and documentation type and borrower information such as credit score, delinquency history and line of credit utilization rate.

The retail exposures are first broken into their retail subcategories. Residential mortgage exposures include all exposures secured by residential real estate. This includes traditional mortgages, home equity loans, home equity lines of credit and business banking exposures that are primarily secured by residential real estate. Qualifying revolving exposures ("QRE") include credit card and charge card products where the overall credit limit is less than or equal to \$100,000. Other retail includes all exposures not classified as residential mortgage or QRE. This includes personal auto finance loans, student loans and business banking loans that are less than \$500,000 and that are scored or managed as a group of loans with homogeneous risk characteristics.

The segmentation process creates differentiated risk buckets spanning a wide-spectrum of relatively-low to relatively-high expected loss rates. The assignment of exposures to segments occurs on a monthly basis for the majority of the retail portfolio, and at least quarterly for all modeled retail exposures. The overall capital requirement for a given retail subcategory fluctuates based on the shift across products and key risk drivers used for segmentation, and may be impacted by any model enhancements or modifications to parameter estimates.

For each retail sub-category, a separate segmentation model exists for probability of default ("PD"), loss given default ("LGD") and, for exposures with available undrawn credit exposure, exposure at default ("EAD"). EAD for a given segment is defined as the Firm's carrying value for on-balance sheet exposure plus a portion of the off-balance sheet exposure based on the Firm's best estimate of net additions to the balance sheet if the exposure were to enter into default in the upcoming year. Quantification of EAD for off-balance sheet exposures is developed through empirical analysis of historical behavior of defaulted exposures in the months leading up to a default.

Probability of default for a given segment estimates the likelihood a borrower will default on the exposure over the next year, based on historical observations over an economic cycle. PD is quantified based on empirical analysis and observed default rate performance over five or more years, including during a period of downturn stress conditions. Generally, the PD rate for a given segment equates to the simple average of observed one-year default rates over the available historical reference data. However, in some instances the Firm makes adjustments to PD estimates to better reflect a full economic cycle.

Loss given default for a given segment is an estimate of expected loss per dollar of EAD under downturn economic conditions. The LGD estimate is based on empirical analysis of post-default loss and recovery information over a historical observation period, and factors in the timing of expected cash flows, estimated recovery costs and accrued interest and fees. The Firm's final estimate is based on the higher of observed performance between the long-run reference data and the downturn-specific performance.

The segmentation system and parameter quantification is independently reviewed by the Model Risk function for conceptual soundness and validated on an annual basis. The risk drivers comprising the segments are evaluated on their ability to differentiate risk consistently over time. Modifications to the segments are made periodically, driven by the validation results, shifts in risk management strategies, regulatory guidance or risk modeling best practices. Any changes to the segmentation model or parameter estimates are approved by the Model Risk function, and tested prior to being put into production. The risk characteristics used for segmentation are consistent with the predominant risk drivers used for other internal credit risk models used by the Firm.

Risk-weighted assets

To calculate retail credit RWA, the Firm inputs its risk parameter estimates (PD, LGD, and EAD) into the Internal Ratings Based (IRB) risk weight formula, as specified by the U.S. banking supervisors. The IRB risk weight formula generates an estimate of unexpected losses at a 99.9% confidence level. Unexpected losses are converted to an RWA measure by application of a 12.5 supervisory multiplier.

December 31, 2014 (in millions)	Basel III Advanced Transitional RWA	
Residential mortgages	\$	146,131
Qualifying revolving		99,310
Other retail		28,028
Total retail credit RWA	\$	273,469

Residential mortgage exposures

The following table includes first lien and junior lien mortgages and revolving home equity lines of credit. First lien mortgages represent approximately 73% of the exposure amount, revolving exposures approximately 26%, with the remaining exposures related to junior lien mortgages. Most revolving exposures were originated prior to 2010 and drive over 44% of the total risk weighted assets of this portfolio, with nearly 38% of the exposures above a PD of 0.75%. Recent originations are primarily first lien mortgages and are predominantly reflected in the less than 0.75% PD ranges.

December 31, 2014
(in millions, except ratios)

PD range (%)	Balance sheet amount	Off balance sheet commitments	EAD	RWA	Exposure-weighted average		
					PD	LGD	Risk weight
0.00 to < 0.10	\$ 24,322	\$ 21,108	\$ 26,234	\$ 1,961	0.04%	53.39%	7.47%
0.10 to < 0.20	80,146	13,072	91,525	11,522	0.15	37.01	12.59
0.20 to < 0.75	45,781	5,476	48,782	19,214	0.43	55.02	39.38
0.75 to < 5.50	42,087	2,498	43,927	58,409	2.15	64.25	132.96
5.50 to < 10.00	5,044	29	5,063	13,615	6.88	68.62	268.85
10.00 to < 100	6,774	6	6,777	21,235	28.15	63.25	313.43
100 (default)	23,704	—	23,703	20,175	100.00	— ^(a)	85.12 ^(b)
Total	\$ 227,858	\$ 42,189	\$ 246,011	\$ 146,131	11.08%	45.01%	59.40%

(a) The LGD rate is reported as zero for residential mortgage exposures in default because by the time they reach the Basel III definition of default they have been charged off to the fair value of the underlying collateral less cost to sell.

(b) The exposure-weighted average risk weight for defaulted loans is less than 100% due to certain loans being insured and/or guaranteed by U.S. government agencies.

Qualifying revolving exposures

The following table includes exposures to individuals that are revolving, unsecured, and unconditionally cancelable by JPMorgan Chase; and they have a maximum exposure amount of up to \$100,000 (i.e., credit card and overdraft lines on individual checking accounts).

December 31, 2014
(in millions, except ratios)

PD range (%)	Balance sheet amount	Off balance sheet commitments	EAD	RWA	Exposure-weighted average		
					PD	LGD	Risk weight
0.00 to < 0.50	\$ 36,711	\$ 447,624	\$ 172,807	\$ 9,907	0.10%	92.21%	5.73%
0.50 to < 2.00	30,707	55,812	39,431	16,170	1.15	92.48	41.01
2.00 to < 3.50	38,172	7,613	38,415	31,449	2.90	92.19	81.87
3.50 to < 5.00	3,880	1,949	3,957	4,255	4.14	94.69	107.53
5.00 to < 8.00	2,176	702	2,249	3,127	6.30	93.11	139.04
8.00 to < 100	18,074	1,405	18,087	34,402	17.95	92.47	190.20
100 (default) ^(a)	—	—	—	—	—	—	—
Total	\$ 129,720	\$ 515,105	\$ 274,946	\$ 99,310	1.93%	92.26%	36.12%

(a) There are no balances reported in default because qualifying revolving exposures consist entirely of unsecured credit cards that are charged off at or prior to reaching the Basel III definition of default.

Other retail exposures

The following table includes other retail exposures to individuals that are not classified as residential mortgage or QRE (i.e., includes auto loans, student loans, credit card accounts above \$100,000, scored business banking loans, and certain wholesale loans under \$1 million).

December 31, 2014
(in millions, except ratios)

PD range (%)	Balance sheet amount	Off balance sheet commitments	EAD	RWA	Exposure-weighted average		
					PD	LGD	Risk weight
0.00 to < 0.50	\$ 33,740	\$ 7,519	\$ 38,465	\$ 5,700	0.17%	37.00%	14.82%
0.50 to < 2.00	15,081	3,596	18,150	9,280	1.07	47.77	51.13
2.00 to < 3.50	3,788	437	4,222	3,589	2.64	58.88	85.01
3.50 to < 5.00	1,995	61	2,057	1,802	4.16	57.03	87.60
5.00 to < 8.00	1,833	321	2,162	2,159	6.36	62.01	99.87
8.00 to < 100	3,324	18	3,332	4,457	23.15	62.84	133.77
100 (default)	1,181	16	1,181	1,041	100.00	— ^(a)	88.14 ^(b)
Total	\$ 60,942	\$ 11,968	\$ 69,569	\$ 28,028	3.66%	43.26%	40.29%

(a) The LGD rate is reported as zero for retail exposures in default because by the time they reach the Basel III definition of default they have been charged off to the fair value of the underlying collateral less cost to sell.

(b) The exposure-weighted average risk weight for defaulted loans is less than 100% due to certain loans being insured and/or guaranteed by U.S. government agencies.

WHOLESALE CREDIT RISK

The wholesale portfolio is a risk-rated portfolio. Risk-rated portfolios are generally held in the Corporate & Investment Bank, Commercial Banking and Asset Management business segments, and in Corporate but also include certain business banking and auto dealer loans held in the Consumer & Community Banking business segment 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 and loss severity given a default. The estimation process begins when risk-ratings are assigned to each obligor and credit 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 population of risk-rated loans and lending-related commitments receiving wholesale treatment for regulatory capital purposes largely overlaps with the wholesale credit portfolio reflected in the Firm's SEC disclosures. In accordance with Basel III, the wholesale population for regulatory capital consists of:

- All risk-rated loans and commitments (excluding certain wholesale loans under \$1 million which receive retail regulatory capital treatment);
- Deposits with banks, and cash and due from banks;
- Exposures to issuer risk for debt securities;
- Certain exposures recorded as trading assets that do not meet the definition of a covered position; and
- Repo-style transactions that do not meet the Basel III requirements for netting.

Certain off-balance sheet commitments, which are reported net of risk participations for U.S. GAAP, are included gross of risk participations for regulatory reporting.

Risk parameter estimation

Risk weights are determined by using internal risk weight parameters. The estimation process for these parameters begins with internal risk-ratings assigned to the obligor and internal loss severity classifications assigned to the credit facility. The obligor ratings are mapped to estimates of PD and the loss severity classifications are mapped to estimates of LGD. Obligor ratings and loss severity classifications are used for both internal risk management and regulatory capital calculations.

For regulatory capital, probability of default is defined as the Firm's best estimate of the long-run, through-the-cycle average one-year default rate. The Firm's PD estimates used in RWA calculations are derived by mapping the internal rating for the relevant obligor to historical external credit rating agency default rates. The Firm's PD estimates are generally more conservative than the rating agency default rates.

Regulatory LGD is defined as an estimate of losses given a default event under downturn economic conditions. Loss severity classifications are assigned by Credit Risk taking into account the type of client, the type of collateral, and the facility's seniority, priority under law, and contractual and structural support, if any. The regulatory LGD estimate is based on empirical analysis of post-default loss and recovery information over the historical observation period, and factors in the timing of expected cash flows, estimated recovery costs, and accrued interest and fees. The regulatory LGD used in the RWA calculation reflects the higher of the loss experience over the entire historical observation period and the loss experience during the downturn period.

EAD for a non-defaulted obligor is the estimate of total exposure upon default of the obligor. EAD is a calculation of the full amount of the Firm's exposure to on-balance sheet loans plus a portion of the off-balance sheet exposure based on the Firm's best estimate of net additions of contingent exposure if the obligor were to enter into default in the upcoming year under downturn conditions. Quantification of EAD for off-balance sheet exposures is developed through empirical analysis of historical behavior of defaulted exposures in the months leading up to default. The Firm has developed separate EAD models for different facility types and LOBs. The models incorporate adjustments for downturn conditions whenever the downturn effects are statistically significant.

Both the internal ratings process and the risk parameter estimation process are subject to independent review. Credit Review, a group within Internal Audit, sample tests internal ratings to ensure policies and procedures are followed correctly. The Model Risk function conducts initial and ongoing reviews of the PD, LGD, and EAD parameters, assessing both methodology and implementation.

RWA calculation

To calculate wholesale credit RWA, the Firm inputs its risk parameter estimates (PD, LGD, and EAD) into the IRB risk weight formula, as specified by the U.S. banking supervisors. The IRB risk weight formula generates an estimate of unexpected losses at a 99.9% confidence level. Unexpected losses are converted to an RWA measure by application of a 12.5 supervisory multiplier.

Risk-weighted assets

The adjacent table presents risk-weighted assets by Basel reporting classification. The Corporate classification includes both credit and issuer exposure to corporate entities. Similarly, the Bank and Sovereign classifications include both credit and issuer exposure to banks and sovereign entities, respectively. High volatility commercial real estate (“HVCRE”) refers to acquisition, development and construction lending. HVCRE is a separate Basel classification because these loans represent higher risk than loans financing income-producing real estate (“IPRE”).

December 31, 2014 (in millions)	Basel III Advanced Transitional RWA
Corporate	\$ 324,967
Bank	29,786
Sovereign	13,182
Income-producing real estate	40,738
High volatility commercial real estate	594
Total wholesale credit RWA	\$ 409,267

Wholesale exposures

The following table presents exposures to wholesale clients and issuers by PD range. Exposures are comprised primarily of traditional credit products (i.e., loans and lending-related commitments), investment securities, and deposits with central banks, predominantly Federal Reserve Banks. Total EAD is \$1.4 trillion, with 82% of this exposure in the first two PD ranges, which are predominantly investment-grade. Exposures meeting the Basel definition of default represent less than 0.1% of total EAD. The exposure-weighted average LGD for the wholesale portfolio is approximately 29%.

December 31, 2014
(in millions, except ratios)

PD range (%)	Balance sheet amount	Off balance sheet commitments	EAD	RWA	Exposure-weighted average		
					PD	LGD	Risk weight
0.00 to < 0.15	\$ 817,707	\$ 264,781	\$ 1,003,122	\$ 136,486	0.04%	27.21%	13.61%
0.15 to < 0.50	111,500	124,269	184,533	92,421	0.28	38.81	50.08
0.50 to < 1.35	138,371	77,729	183,712	101,554	0.80	29.34	55.28
1.35 to < 10.00	44,231	37,097	65,239	69,461	3.89	36.48	106.47
10.00 to < 100	4,257	2,147	5,452	7,837	22.68	38.71	143.74
100 (default)	1,255	281	1,423	1,508	100.00	35.48	106.00
Total	\$ 1,117,321	\$ 506,304	\$ 1,443,481	\$ 409,267	0.53%	29.44%	28.35%

Credit risk mitigation

The risk mitigating benefit of eligible guarantees and credit derivative hedges are reflected in the RWA calculation by either substituting the PD of the guarantor or hedge counterparty for the PD of the obligor, or by adjusting the LGD. At December 31, 2014, \$57.4 billion of EAD for wholesale exposures is covered by eligible guarantees or credit derivatives.

COUNTERPARTY CREDIT RISK

Risk parameter estimation

Counterparty credit risk RWA calculations utilize the PD and LGD methodologies described in the Wholesale Credit Risk section of this report. The EAD methodologies are described below.

Over-the-counter (“OTC”) Derivatives

The Firm principally uses the internal model method (“IMM”) under Basel III for calculating counterparty credit risk regulatory capital for OTC and exchange-traded derivatives.

The IMM methodology uses the Firm’s internal models to calculate effective expected positive exposure (“EEPE”), which when multiplied by the regulatory-prescribed multiplier, produces the counterparty-level regulatory measure of EAD.

The Firm’s IMM methodology simulates forward-looking market risk factors and uses product-specific pricing models to produce distributions of future mark-to-market (“MTM”) values over the life of each trade level exposure. In addition to the regulatory measure of exposure, the IMM model also produces a variety of risk measures used for internal credit risk management and reporting.

For certain types of derivatives where IMM is not used, regulatory exposure is calculated using the current exposure measure (“CEM”). In the CEM methodology, EAD is the sum of the MTM plus an add-on amount based on the notional and a credit conversion factor (“CCF”) for each trade.

In the EAD calculation, trade level exposures are aggregated to incorporate the effects of legally enforceable master netting agreements. In addition, both methods incorporate the effects of margin received or posted. The EAD is used in the regulatory capital formula to calculate counterparty-level RWA.

All models are subject to initial and ongoing review by the Firm’s independent Model Risk function prior to use. The model is also subject to periodic backtesting to demonstrate that performance continues to be acceptable.

Repo-style transactions

Counterparty credit risk RWA for repo-style transactions is calculated using the Collateral Haircut Approach. Under this method, the credit risk mitigation benefits of collateral are recognized in the EAD.

EAD is calculated as the net market value of exposure and collateral under a legally enforceable master netting agreement (“netting set”) adjusted for potential increases of net exposure by applying standard supervisory market price volatility haircuts.

EAD for repo-style transactions includes certain exposures which are not reflected on the balance sheet such as:

- Securities borrowing and lending transactions collateralized by securities, and
- Securities lending indemnification agreements and guarantees.

Repo-style transactions that do not meet eligibility requirements specified in the Basel III rule are treated as loans for regulatory capital purposes and reported as wholesale exposures in this report.

Margin loans

Counterparty credit risk RWA for margin loans is calculated using the LGD Estimation Method. Under this method, the benefits of financial collateral are recognized in the LGD. Exposure at default is calculated as the amount of the margin loan plus the market value of any short trading positions in the customer’s account less any cash balance.

Risk-weighted assets

To calculate counterparty credit risk RWA, the Firm inputs its risk parameter estimates (PD, LGD, and EAD) into the same IRB risk weight formula as wholesale exposures. The IRB risk weight formula generates an estimate of unexpected losses at a 99.9% confidence level. Unexpected losses are converted to an RWA measure by application of a 12.5 supervisory multiplier. The following table presents risk-weighted assets by transaction type.

December 31, 2014 (in millions)	Basel III Advanced Transitional RWA
OTC derivatives	\$ 86,983
Repo-style transactions	23,188
Margin loans	2,720
Cleared transactions ^(a)	5,104
Total counterparty credit RWA	\$ 117,995

(a) Cleared transactions include exchange-traded derivatives such as futures and options, OTC derivatives and repo-style transactions that the Firm clears through a central counterparty for its own account and for client accounts. A central counterparty (CCP) is a clearing house that interposes itself between counterparties to contracts traded in one or more financial markets, becoming the buyer to every seller and the seller to every buyer and thereby ensuring the future performance of open contracts. A CCP becomes counterparty to trades with market participants through novation, an open offer system, or another legally binding arrangement. Basel III introduced new capital requirements for cleared transactions.

Counterparty credit exposures

The following table presents counterparty credit risk exposures for OTC derivatives and netted repo-style transactions by PD range. The table does not include margin loans or cleared transactions. Total EAD is \$263.6 billion, with 86% of this exposure in the first two PD ranges, which are predominantly investment-grade. Exposures meeting the Basel definition of default represent 0.1% of total EAD. The exposure-weighted average LGD for this portfolio is 43%. The collateral benefit is reflected in the EAD.

December 31, 2014
(in millions, except ratios)

PD range (%)	EAD	RWA	Exposure-weighted average		
			PD	LGD	Risk weight
0.00 to < 0.15	\$ 189,839	\$ 57,028	0.10%	42.78%	30.04%
0.15 to < 0.50	36,346	17,471	0.27	43.26	48.07
0.50 to < 1.35	26,833	21,168	0.81	44.30	78.89
1.35 to < 10.00	9,892	13,102	3.97	44.43	132.45
10.00 to < 100	344	1,050	22.89	50.79	305.06
100 (default)	332	352	100.00	42.30	106.00
Total	\$ 263,586	\$ 110,171	0.50%	43.07%	41.80%

Credit risk mitigation

The risk mitigating benefit of eligible guarantees are reflected in the RWA calculation by substituting the PD of the guarantor for the PD of the counterparty. At December 31, 2014, \$8.1 billion of EAD for OTC derivatives is covered by eligible guarantees.

SECURITIZATION

Securitization exposure is defined as a transaction in which:

- The credit risk of the underlying exposure is transferred to third parties, and has been separated into two or more tranches;
- The performance of the securitization depends upon the performance of the underlying exposures or reference assets; and
- All or substantially all of the underlying exposures or reference assets are financial exposures.

Securitization exposures include on- or off-balance sheet exposures (including credit enhancements) that arise from a securitization or re-securitization transaction; or an exposure that directly or indirectly references a securitization (e.g., credit derivative). A re-securitization is a securitization exposure in which one or more of the underlying exposures is itself a securitization exposure.

On-balance sheet exposures include securities, loans, servicing advances, and derivatives for which securitization trusts are the counterparty. Off-balance sheet exposures include liquidity commitments, certain recourse obligations, tranching credit derivatives, and derivatives for which the reference obligation is a securitization.

Securitization exposures are classified as either traditional or synthetic. In a traditional securitization, the originator establishes a special purpose entity ("SPE") and sells assets (either originated or purchased) off its balance sheet into the SPE, which issues securities to investors. In a synthetic securitization, credit risk is transferred to an investor through the use of credit derivatives or guarantees. In a synthetic securitization, there is no change in accounting treatment for the assets securitized.

This section includes both banking book and trading book securitization exposures, with the exception of modeled correlation trading exposures which are presented in the Market Risk section.

Risk management

The risks related to securitization and re-securitization positions are managed in accordance with the Firm's credit risk and market risk management policies.

Due diligence

For each securitization and re-securitization position, the Firm performs due diligence on the credit worthiness of each position prior to entering into that position, and documents such due diligence within three business days as required by Basel III. The Firm's due diligence procedures are designed to provide it with a comprehensive understanding of the features that would materially affect the performance of a securitization or re-securitization.

The Firm's due diligence procedures include analyzing and monitoring:

- The quality of the position, including information regarding the performance of the underlying credit exposures and relevant market data;
- The structural and other enhancement features that may affect the credit quality of a securitization or re-securitization; and
- For re-securitization positions, information on the performance of the underlying securitization exposures.

The level of detail included in the due diligence procedures is commensurate with the complexity of each securitization or re-securitization position held. In addition to pre-trade due diligence, the due diligence procedures are performed on a quarterly basis for each securitization and re-securitization position.

Market risk monitoring

Each line of business that transacts in these positions and the Market Risk function work together to monitor the positions, position changes, and the composition of the total portfolio. This includes, but is not limited to, the review of daily positions against approved risk limits using risk measures such as market values, risk factor sensitivities and stress loss scenarios. Covered securitization and re-securitization positions are included in the Firm's Risk Management VaR and Regulatory VaR. These positions are included in the market risk and limit reports that are distributed on a daily basis to the trading desks, Risk Management and senior managers within the lines of business.

Credit risk mitigation

Various strategies are employed by the Firm to mitigate the risk from securitization and re-securitization positions. These include credit risk mitigation at both the transaction and portfolio levels, and include analysis of the underlying collateral, diversification of the positions, and hedging, among others.

JPMorgan Chase securitization exposures are sensitive to interest rate levels and the overall credit environment. The Firm may hedge credit spread and interest rate risk, and currency risk associated with non-U.S. denominated assets, as needed, related to its securitization and re-securitization positions. JPMorgan Chase's policies allow various financial instruments to be employed to mitigate or hedge the risks of securitization and re-securitization positions. Examples of these instruments include U.S. Treasuries, interest rate swaps, FX forwards, and various credit derivatives.

Securitization risk-weighted assets

Basel III Advanced rules prescribe a hierarchy of approaches for calculating securitization RWA starting with the Supervisory Formula Approach (“SFA”), which uses internal models to determine RWA; followed by the Simplified Supervisory Formula Approach (“SSFA”), which uses supervisory risk weights and other inputs to determine RWA; and finally the application of a 1250% risk weight.

For securitization exposures in the banking book, Basel III overlays a maximum capital requirement which can result in an effective risk weight lower than the risk weight calculated in the hierarchy of approaches. Additionally, the regulatory prescribed scalar applied broadly to credit risk

RWA may result in a banking book exposure receiving a risk weight greater than 1250%.

Any gain-on-sale in connection with a securitization exposure must be deducted from common equity tier 1 capital. The amount deducted for the period ended December 31, 2014 was immaterial.

The following table presents banking book and trading book exposures receiving securitization capital treatment (with the exception of modeled correlation trading positions which are presented in the Market Risk section). The amounts include traditional and synthetic securitization exposures, with re-securitizations shown separately.

December 31, 2014 (in millions)	Securitization							
	SFA		SSFA		1250%		Total	
	Exposure	RWA	Exposure	RWA	Exposure	RWA	Exposure	RWA
Risk weight								
= 0% ≤ 20%	\$ 71,313	\$ 15,111	\$ 69,213	\$ 14,616	\$ —	\$ —	\$ 140,526	\$ 29,727
> 20% ≤ 50%	3,048	1,057	4,126	1,262	—	—	7,174	2,319
> 50% ≤ 100%	193	156	2,274	1,451	—	—	2,467	1,607
> 100% < 1250%	38	312	2,329	7,591	—	—	2,367	7,903
= 1250%	134	1,680	252	3,180	460	6,073	846	10,933
Securitization, excluding re-securitization	\$ 74,726	\$ 18,316	\$ 78,194	\$ 28,100	\$ 460	\$ 6,073	\$ 153,380	\$ 52,489
December 31, 2014 (in millions)	Re-securitization							
	SFA		SSFA		1250%		Total	
	Exposure	RWA	Exposure	RWA	Exposure	RWA	Exposure	RWA
Risk weight								
= 0% ≤ 20%	\$ 1,493	\$ 311	\$ 255	\$ 54	\$ —	\$ —	\$ 1,748	\$ 365
> 20% ≤ 50%	3	1	16	6	—	—	19	7
> 50% ≤ 100%	2	—	28	20	—	—	30	20
> 100% < 1250%	25	197	211	916	—	—	236	1,113
= 1250%	26	327	20	257	42	528	88	1,112
Re-securitization^(a)	\$ 1,549	\$ 836	\$ 530	\$ 1,253	\$ 42	\$ 528	\$ 2,121	\$ 2,617
Total securitization^(b)	\$ 76,275	\$ 19,152	\$ 78,724	\$ 29,353	\$ 502	\$ 6,601	\$ 155,501	\$ 55,106

(a) During the three months ended December 31, 2014, there were no re-securitizations to which credit risk mitigation has been applied.

(b) Total securitization RWA includes \$13.3 billion of RWA on trading book exposure of \$7.3 billion. The trading book RWA represents the securitization standard charges in the Market Risk section of this report.

Exposure by collateral type

The following table presents banking book and trading book exposures receiving securitization capital treatment (with the exception of modeled correlation trading positions which are presented in the Market Risk section). The amounts below include traditional and synthetic securitization exposures.

December 31, 2014 (in millions)	Exposure				RWA
	On-balance sheet ^{(a)(b)}	Off-balance sheet	Total		
Collateral type:					
Residential mortgage	\$ 48,458	\$ 913	\$ 49,371	\$ 21,317	
Commercial mortgage	25,750	428	26,178	11,009	
Commercial and industrial	42,780	523	43,303	12,372	
Consumer auto	13,491	266	13,757	3,556	
Student loans	8,969	47	9,016	2,585	
Municipal bonds	1	6,338 ^(c)	6,339	1,399	
Other	7,314	223	7,537	2,868	
Total securitization exposure	\$ 146,763	\$ 8,738	\$ 155,501	\$ 55,106	

(a) Short risk positions in the trading book are floored at zero.

(b) Includes the counterparty credit risk EAD associated with derivative transactions for which the counterparties are securitization trusts.

(c) Represents liquidity facilities supporting nonconsolidated municipal bond VIEs.

Assets securitized

The following table presents the outstanding principal balance of JPMorgan Chase-sponsored securitization trusts in which the Firm has retained exposure in either the banking book or the trading book. Third-party assets in deals sponsored by JPMorgan Chase are shown separately.

December 31, 2014 (in millions)	Principal amount outstanding			
	JPMorgan Chase assets held in traditional securitizations ^(a)	Third-party assets held in traditional securitizations ^(a)	JPMorgan Chase assets held in synthetic securitizations	Assets impaired or past due ^(b)
Collateral type:				
Residential mortgage	\$ 102,861	\$ 17	\$ 1,759	\$ 17,812
Commercial mortgage	68,789	34,696	—	1,509
Commercial and industrial	—	—	2,409	—
Consumer auto	—	—	—	—
Student loans	898	—	—	83
Municipal bonds	10,121	—	—	—
Other	31	—	—	—
Total	\$ 182,700	\$ 34,713	\$ 4,168	\$ 19,404

(a) Represents assets held in nonconsolidated securitization VIEs.

(b) Represents assets 90 days or more past due or on nonaccrual status.

Securitization activity

The following table presents assets pending securitization (i.e., assets held with the intent to securitize) and year-to-date activity for assets securitized by JPMorgan Chase including traditional and synthetic securitizations. The amounts exclude assets in consolidated securitization variable interest entities. All instruments transferred into securitization trusts during the year ended December 31, 2014 were classified as trading assets under U.S. GAAP. As such, changes in fair value were recorded in principal transactions revenue, and there were no significant gains or losses associated with the securitization activity.

December 31, 2014 (in millions)	Carrying value	Original principal amount	
	Assets pending securitization	Assets securitized with retained exposure	Assets securitized without retained exposure
Collateral type:			
Residential mortgage	\$ 9,341	\$ 1,921	\$ 638
Commercial mortgage	3,863	8,331	3,578
Commercial and industrial	—	—	—
Consumer auto	—	—	—
Student loans	1	—	—
Municipal bonds	—	872	—
Other	—	—	—
Total	\$ 13,205	\$ 11,124	\$ 4,216

EQUITY RISK IN THE BANKING BOOK

Equity investments in the banking book include AFS equity securities, private equity investments, investments in unconsolidated subsidiaries, hedge funds, investment funds (including separate accounts), other equity investments classified within other assets, and certain equity investments classified within trading assets that do not meet the definition of a covered position.

Equity investments in the banking book are held for a variety of reasons, including strategic purposes and capital gains over the long term.

Investments in separate accounts are held in connection with corporate- and bank-owned life insurance ("COLI/BOLI") and certain asset management activities.

- Refer to Note 9 on pages 218 and 223 of the 2014 Form 10-K for a discussion of COLI and the related investment strategy and asset allocation.

Investments in marketable equity securities in the banking book are accounted for at fair value. Investments in nonmarketable equity securities in the banking book are accounted for as follows:

- Equity method for investments where the Firm has the ability to exercise significant influence;
- Fair value when elected under the fair value option; and
- Cost for all other nonmarketable equity investments.

Accounting and valuation policies for equity investments

- Refer to Principal Risk Management, on page 140 of the 2014 Form 10-K for a discussion of principal risk management related to privately-held investments.
- Refer to Note 1 on pages 177-179 of the 2014 Form 10-K for further discussion of the accounting for investments in unconsolidated subsidiaries.
- Refer to Note 3 on pages 180-199 of the 2014 Form 10-K for a discussion of the valuation of private equity direct investments and fund investments (i.e., mutual/collective investment funds, private equity funds, hedge funds and real estate funds).
- Refer to Note 12 on pages 230-234 of the 2014 Form 10-K for further discussion of the accounting for AFS equity securities.

Risk-weight approaches

For equity exposures to investment funds, the Firm uses a combination of the Full Look-Through Approach and the Simple Modified Look-Through Approach to calculate RWA. Under these approaches, RWA is calculated on the underlying exposures held by the fund as if they were held directly by the Firm and, then, multiplying that amount by the Firm's proportional ownership share of the fund. For all other equity exposures, the Firm uses the Simple Risk-Weight Approach ("SRWA"). Under the SRWA, the Firm applies the regulatory prescribed risk weights to the carrying value of each equity exposure.

Equity risk-weighted assets

The table below presents the exposure and RWA by risk weight.

December 31, 2014 (in millions)			
Risk-weight category	Exposure ^(a)		RWA
0%	\$	3,462 ^(b)	\$ —
20%		2,987	633
100%		27,595	29,252
300%		—	—
400%		—	—
600%		571	3,632
Look-through		16,893	9,495
Total	\$	51,508	\$ 43,012

(a) Includes off-balance sheet unfunded commitments for equity investments of \$1.1 billion.

(b) Consists of Federal Reserve Bank stock.

Carrying Value and fair value

The following table presents the carrying value and fair value of equity investments in the banking book.

December 31, 2014 (in millions)			
	Carrying value		Fair value
Publicly traded	\$	23,786	\$ 23,991
Privately held and third-party fund investments		26,649	31,128
Total	\$	50,435	\$ 55,119

Realized gains/(losses)

Cumulative realized gains/(losses) from sales and liquidations during the three months ended December 31, 2014 were \$383 million. This includes previously recognized unrealized gains/(losses) which have been reversed and booked as realized gains/(losses).

Unrealized gains/(losses)

At December 31, 2014 (in millions)		Cumulative unrealized gains/(losses), pre-tax
Recognized in AOCI ^(a)	\$	(17)
Unrecognized ^(b)		4,617

(a) Unrealized gains of \$6 million were included in Tier 2 capital per Basel III rules.

(b) Applicable only to cost method investments.

MARKET RISK

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.

For a discussion of the Firm's Market Risk organization, risk identification and classification, and tools to measure market risk, see Market Risk Management on pages 131-136 of the 2014 Form 10-K. For a discussion of the Firm's risk monitoring and control and market risk limits, see the Risk monitoring and control section on page 131 of the 2014 Form 10-K.

Measures included in market risk RWA

The following table presents the Firm's market risk-based capital and risk-weighted assets at December 31, 2014. The components of market risk RWA are discussed in detail in the Regulatory market risk capital models section on pages 23-26 of this report. RWA is calculated as RBC times a multiplier of 12.5; any calculation differences are due to rounding.

Three months ended December 31, 2014 (in millions)	Risk-based capital	RWA
Internal models		
Value-at-Risk based measure ("VBM") ^(a)	\$ 1,225	\$ 15,315
Stressed Value-at-Risk based measure ("SVBM") ^(a)	3,676	45,946
Incremental risk charge ("IRC") ^(b)	612	7,654
Comprehensive risk measure ("CRM") ^(b)	1,407	17,594
Total internal models	6,921	86,509
Standard specific risk		
Securitization positions	1,061	13,259
Nonsecuritization positions	5,981	74,757
Other charges ^(c)	360	4,503
Total Market risk	\$ 14,323	\$ 179,028

- (a) Reflects the impact of excluding the diversification benefit for certain VaR models. In prior quarters this impact was included in other charges. The Firm's RWA associated with VBM and SVBM, when including this diversification benefit was \$5.7 billion and \$17.2 billion, respectively, as of December 31, 2014.
- (b) Represents the capital and RWA related to positions for which the Firm has received supervisory approval for model-based capital treatment.
- (c) Represents the capital and RWA that predominantly relates to de minimis exposures.

Market risk RWA rollforward

The following table presents the changes in the market risk component of RWA under Basel III Advanced Transitional for the three months ended December 31, 2014. The amounts in the rollforward categories are estimates, based on the predominant driver of the change.

Three months ended December 31, 2014 (in billions)	Basel III Advanced Transitional RWA
September 30, 2014	\$ 173
Rule changes ^(a)	—
Model & data changes ^(b)	(1)
Portfolio runoff ^(c)	—
Movement in portfolio levels ^(d)	7
Change in RWA	6
December 31, 2014	\$ 179

- (a) Rule changes refer to movements in RWA as a result of changes in regulations.
- (b) Model & data changes refer to movements in RWA as a result of revised methodologies and/or treatment per regulatory guidance (exclusive of rule changes).
- (c) Reflects reduced risk from position rollofs in legacy portfolios.
- (d) Movement in portfolio levels refers to changes in position and market movements.

Material portfolio of covered positions

The Firm's market risks arise predominantly from activities in the Firm's Corporate & Investment Bank ("CIB") business. CIB makes markets in products across fixed income, foreign exchange, equities and commodities markets; the positions held by the CIB comprise predominantly all the Firm's portfolio of covered positions under Basel III. Some additional covered positions are held by the Firm's other lines of business.

- Refer to pages 79-80 and pages 92-96 of the 2014 Form 10-K for a discussion of CIB's Business Segment Results.

Value-at-Risk (“VaR”)

VaR is a statistical risk measure used to estimate the potential loss from adverse market moves in a normal market environment. The Firm has a single overarching VaR model framework used for calculating Regulatory VaR and Risk Management 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.

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.

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.

- Refer to the Economic-value stress testing section on page 27 for further information on stress testing.

Risk management VaR comparison to Regulatory VaR

Risk Management VaR is calculated assuming a one-day holding period and an expected tail-loss methodology which approximates a 95% confidence level. This means that, 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 in every 100 trading days. For risk management purposes, the Firm believes the use of a 95% confidence level with a one-day holding period 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 necessary/appropriate information to respond to risk events on a daily basis. The Firm’s Risk Management VaR is disclosed in its SEC filings.

As required by Basel III, the Firm calculates Regulatory VaR assuming a 10-day holding period and an expected tail loss methodology, which approximates a 99% confidence level. Assuming current changes in market values are consistent with the historical changes used in the simulation, the Firm would expect to incur losses greater than that predicted by Regulatory VaR using a one-day holding period not more than once every 100 trading days. In contrast to the Firm’s Risk Management VaR, Regulatory VaR currently excludes the diversification benefit for certain VaR models.

As noted above, Regulatory VaR is applied to “covered positions” as defined by Basel III, which may be different from 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.

Regulatory market risk capital models

VaR-Based Measure (“VBM”)

The VBM measure is an aggregate loss measure combining Regulatory VaR and modeled specific risk (“SR”) factors over a 10-day holding period and a 99% confidence level. While the Regulatory VaR portion of the VBM measures the estimated maximum amount of decline due to market price or rate movements for all covered positions, the modeled SR portion of the VBM measures the risk of loss from factors other than broad market movements. Modeled SR factors include event risk and idiosyncratic risk for a subset of covered positions for which the model is approved by the Firm’s supervisors. The Firm’s VBM is converted to a capital requirement using a regulatory multiplier. The capital requirement is then translated to risk-weighted assets using a multiplier of 12.5 as prescribed by Basel III.

The Firm’s Regulatory VaR and modeled SR 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 to minimize differences in models for like products, systems capabilities, and other factors. Such changes will affect historical comparisons of the VBM and VaR results.

The following table presents the results of the Firm’s VBM converted risk-weighted assets based on the application of regulatory multipliers as specified by Basel III.

Three months ended December 31, 2014 (in millions)	Average VBM ^(a)	Risk-based capital ^(b)	RWA
Firm modeled VBM	\$ 408	1,225	\$15,315

(a) Excludes diversification benefit for certain VaR models. In prior quarters this diversification benefit was included in this table. The Firm’s VBM when including this diversification benefit was \$152 million as of December 31, 2014.

(b) The Firm’s multiplier for determining risk-based capital associated with VBM is 3.

CIB VaR-Based Measure (“VBM”)

For the three months ended December 31, 2014, JPMorgan Chase’s average CIB VBM was \$412 million, compared with average Risk Management CIB VaR of \$40 million. The CIB VBM was higher due to the longer holding period (10 days), the higher confidence level (99%), differences in population, and the exclusion of diversification benefit for certain VaR models.

The following table presents the average, minimum, maximum and period-end VBM by risk type for the CIB and total VBM for the Firm. In addition, the table presents the reduction of total risk resulting from the diversification of the portfolio, which is the sum of the CIB VBMs for each risk type less the total CIB VBM. The diversification effect reflects the fact that risks are not perfectly correlated.

	Three months ended December 31, 2014				At December 31, 2014
(in millions)	Avg.	Min	Max		
CIB VBM by risk type					
Interest rate ^(a)	\$196	\$179	\$222	\$	179
Credit spread ^(a)	323	273	377		276
Foreign exchange	47	31	60		45
Equities	63	47	93		92
Commodities and other	42	32	49		43
Diversification benefit	(259) ^(b)	NM ^(c)	NM ^(c)		(231) ^(b)
Total CIB VBM	412	375	472		404
Total Firm VBM	\$408	\$370	\$466	\$	392

(a) For certain products and portfolios, a full revaluation model is used to calculate VBM, which considers both interest rate and credit spread risks together. As such, the Firm allocates the results of the full revaluation model between interest rate and credit spread risk based on the predominant characteristics of the product or portfolio.

(b) Average portfolio VBM and period-end portfolio VBM were less than the sum of the components described above due to portfolio diversification.

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

The average CIB VBM diversification benefit was \$259 million, or 39% of the sum of the individual risk components for the three months ended December 31, 2014. The reduction in diversification benefit from prior quarters is driven by a reporting classification change to include the impact of aggregating certain VaR models without diversification. Under the prior reporting approach, the diversification benefit would have been 61% for the three months ended December 31, 2014. The average Risk Management CIB trading and credit portfolio VaR diversification benefit was \$38 million, or 49% of the sum of the individual risk components, for the three months ended December 31, 2014.

➤ Refer to pages 131–136 of the 2014 Form 10-K for additional information on Risk Management VaR in the Market Risk Management section.

VBM back-testing

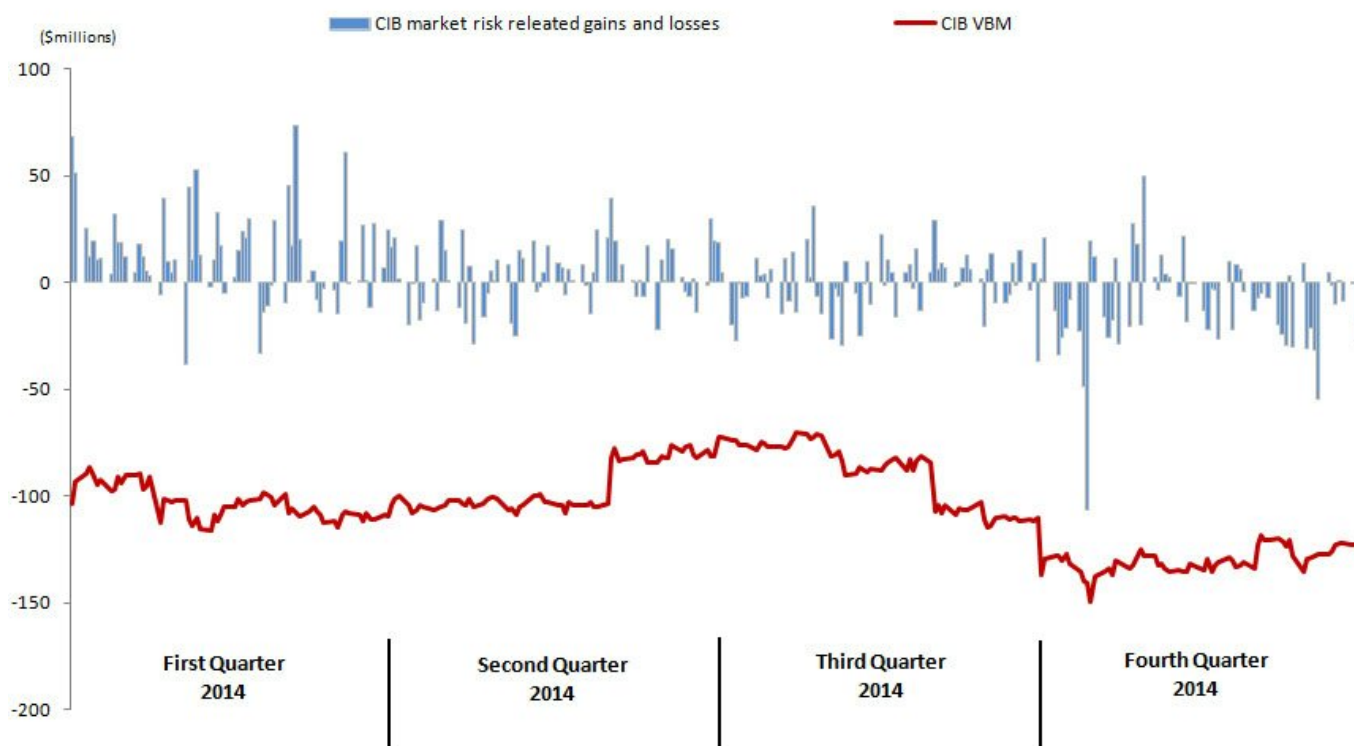
Back-testing is an approach used to evaluate the effectiveness of the Firm's VBM methodology. Back-testing compares daily market risk-related gains and losses with one-day VBM results. Market risk-related gains and losses are defined as profits and losses on covered positions, excluding fees, commissions, certain valuation adjustments (e.g., liquidity and DVA), net interest income, and gains and losses arising from intraday trading. VBM "band breaks" occur when market risk-related losses are greater than the estimate predicted by the VBM for the corresponding day.

The following chart presents the VBM back-testing results for CIB's covered positions. The VBM presented in the chart reflects the exclusion of the diversification benefit for certain VaR models. In prior Pillar 3 reports, the VBM included this diversification benefit. The chart shows that for the year ended December 31, 2014, the CIB observed no band breaks and posted market-risk related gains on 143 of the 260 trading days. The CIB posted market-risk related gains on 20 of the 66 trading days in the fourth quarter of 2014. The results in the table below are different from the results of VaR back-testing disclosed in the Firm's SEC filings due to the differences between the Risk Management VaR and Regulatory VaR as described on page 22 of this report.

CIB daily market risk-related gains and losses on covered positions

Total VBM (1-day, 99.0% confidence-level)

Year ended December 31, 2014



Note: The gains and losses used in back-testing represent gains and losses generated only by market moves, and are not reflective of CIB's total gains and losses.

Stressed VaR-Based Measure (“SVBM”)

The SVBM uses the same Regulatory VaR and SR models as are used to calculate the VBM, but the models are calibrated to reflect historical data from a continuous 12-month period that reflects significant financial stress appropriate to the Firm’s current portfolio.

The SVBM presented in the tables below reflects an interim approach until the Firm finalizes its SVBM model.

The following table presents the results of the Firm’s SVBM converted to risk-based capital and risk-weighted assets based on the application of regulatory multipliers as specified by Basel III.

Three months ended December 31, 2014 (in millions)	Average SVBM ^(a)	Risk-based capital ^(b)	RWA
Firm modeled SVBM	\$ 1,225	3,676	\$ 45,946

- (a) Reflects the impact of excluding the diversification benefit for certain VaR models. In prior quarters this diversification benefit was included here. The Firm’s SVBM when including the diversification benefit is \$457 million as of December 31, 2014.
- (b) The Firm’s multiplier for determining risk-based capital associated with SVBM is 3.

The following table presents the average, minimum, maximum and period-end SVBM for the CIB and the Firm.

(in millions)	Three months ended December 31, 2014			At December 31, 2014
	Avg.	Min	Max	
Total CIB SVBM	\$ 1,237	\$ 1,125	\$ 1,417	\$ 1,213
Total Firm SVBM	\$ 1,225	\$ 1,109	\$ 1,397	\$ 1,175

Incremental Risk Charge (“IRC”)

The IRC measure captures the risks of issuer default and credit migration for credit-sensitive covered positions that are incremental to the risks already captured in the VBM. The model is intended to measure the potential loss over a one-year holding period at a 99.9% confidence level, and it is limited for use to non-securitized covered positions. The IRC is calculated on a weekly basis.

JPMorgan Chase has developed a Monte Carlo simulation-based model to compute the IRC for its credit-sensitive, non-securitized covered positions. Modeling of default events is based on a proprietary multi-factor asset approach, which incorporates the effects of issuer, regional and industry risk concentrations. Credit migration risk is captured in the IRC model by an explicit simulation of credit spread distributions. Product concentrations are captured by incorporating product-specific factors such as bond-credit default swap (“CDS”) basis risk. The underlying simulation model is calibrated to provide joint distributions across all risk factors (e.g., default, spread, recovery, basis effects), while capturing important cross-effects that can have a significant impact on the tail risk of the portfolio, such as the correlation between defaults and recoveries.

The IRC model assumes the level of trading positions remains constant in order to model profit and loss distributions over a one-year holding period. This approach effectively assumes a one-year liquidity horizon for all positions, while all risk factor shocks are applied to the portfolio in an instantaneous setting. The IRC measures the potential loss in the current value of the portfolio at a 99.9% confidence level. The IRC model uses a full revaluation approach to capture the re-pricing risk of all positions due to credit migration and default events. This approach requires full economic details on all positions for re-pricing, thereby capturing the non-linear effects of risk factors on the value of the portfolio during large market moves.

The IRC is validated through the evaluation of modeling assumptions, sensitivity analysis, ongoing monitoring, benchmarking and outcome analysis. In addition, over time, as market conditions and portfolios change, periodic testing of the model (including sensitivity analysis, accuracy and convergence testing) is conducted to ensure the appropriateness of model settings and parameters, as well as the accuracy and robustness of the model output. In order to ensure continued applicability and relevance, the IRC model’s calibration to historical market data is updated quarterly.

The following table presents the IRC risk-based capital requirement for the CIB, which is the same as the risk measure itself, and the risk-weighted assets which is based on the application of regulatory multipliers as specified by Basel III.

Three months ended December 31, 2014 (in millions)	IRC ^(a)	RWA
Total CIB IRC	\$ 612	\$ 7,654

- (a) IRC reflects the higher of the quarterly average and period-end spot measure under Basel III.

The following table presents the average, minimum, maximum and period-end IRC for the CIB.

(in millions)	Three months ended December 31, 2014			At December 31, 2014
	Avg.	Min	Max	
CIB IRC on trading positions	\$ 574	\$ 465	\$ 669	\$ 612

Comprehensive Risk Measure (“CRM”)

The CRM captures material price risks of one or more portfolios of correlation trading positions. Correlation trading positions refer to client-driven, market-making activities in credit index and bespoke tranche swaps that are delta hedged with single-name and index credit default positions. In addition, Basel III requires that an additional charge equal to 8% of the market-risk based capital calculated using the standard SR model (see below) be added to the CRM model-based capital requirements; this is referred to as the CRM surcharge.

Similar to the IRC, the CRM measures potential losses over a one-year holding period at a 99.9% confidence level. The CRM is calculated on a weekly basis.

The CRM model is an extension of the previously described Monte-Carlo simulation-based IRC model, and it includes additional risk factors that are relevant for index tranches, bespoke tranches, and first-to-default positions in the Firm's correlation trading portfolio. The range of risk factors simulated by the CRM model includes default events, credit spreads, recovery rates, implied correlations, index-to-constituent spread basis risk, bespoke-to-index correlation basis risk, and capital structure basis risks.

The CRM model assumes the level of trading positions remains constant in order to model profit and loss distributions over a one-year holding period. This approach effectively assumes a one-year liquidity horizon for all positions, while all risk factor shocks are applied to the portfolio in an instantaneous setting. The CRM is measured as a 99.9% quantile loss from the gain and loss distribution relative to the current value of the portfolio. The CRM model uses a full revaluation approach to capture the re-pricing risk of all correlation trading positions, thereby capturing the non-linear effects of risk factors on the value of the portfolio during large market moves, particularly due to the convexity of tranche valuation to default events.

The CRM model is validated through the evaluation of modeling assumptions, sensitivity analysis, ongoing monitoring, benchmarking and outcome analysis. In order to ensure continued applicability and relevance, the CRM model's calibration to historical market data is updated quarterly. As an additional validation, and to comply with the requirements of Basel III, weekly CRM stress testing is performed for all correlation trading positions. The weekly CRM stress testing leverages pre-defined stress scenarios across major risk factors including default, spread, index-CDS basis spreads, and base correlation. In addition, over time, as market conditions and portfolios change, periodic testing of the model (including sensitivity analysis, accuracy and convergence testing) is conducted to ensure the appropriateness of model settings and parameters, as well as the accuracy and robustness of the model output.

The following table presents the CRM risk-based capital requirement (which is the same as the risk measure itself) and the risk-weighted assets (which is based on the application of regulatory multipliers as specified by Basel III) for the CIB.

Three months ended December 31, 2014 (in millions)	CRM ^{(a)(b)}	RWA
Total CIB CRM	\$ 1,407	\$ 17,594

(a) Includes a CRM surcharge, which amounted to \$608 million on CIB trading positions.

(b) CRM reflects the higher of the quarterly average and period-end spot measure under Basel III.

The following table presents the average, minimum, maximum and period-end CRM for the CIB.

(in millions)	Three months ended December 31, 2014			At December 31, 2014
	Avg.	Min	Max	
CRM model on CIB trading positions	\$ 724	\$ 585	\$ 794	\$ 585
CRM surcharge on CIB trading positions	683	608	\$ 710	608
Total CIB CRM	\$ 1,407	\$ 1,193 ^(a)	\$ 1,483 ^(a)	\$ 1,192

(a) The minimum and maximum for the CRM model, CRM surcharge, and Total CRM measure are determined independently of each other.

Therefore, the minimum and maximum for each of the three metrics can occur on different dates and thus may not always be additive.

Aggregate correlation trading positions

The following table presents the net notional amount and fair value of the Firm's aggregate correlation trading positions and the associated credit hedges. Credit hedges of the correlation trading positions are included as they are considered to be part of the aggregate correlation trading positions. The presentation distinguishes between positions that are modeled in CRM and those that are not modeled in CRM.

December 31, 2014 (in millions)	Notional amount ^(a)	Fair value ^(b)
Positions modeled in CRM	\$ 5,035	\$ (1,438)
Positions not modeled in CRM	(2,818)	198
Total correlation trading positions	\$ 2,217	\$ (1,240)

(a) Reflects the net of the notional amount of the correlation trading portfolio, including credit hedges.

(b) Reflects the fair value of securities and derivatives, including credit hedges.

Non-modeled specific risk add-on (Standard SR)

Non-modeled specific risk add-on (or "standard SR") is calculated using supervisory-prescribed risk weights and methodologies for covered debt, equity and securitization positions that are not included in modeled SR. The market risk-based capital and risk-weighted assets for non-modeled SR are shown in the table below.

December 31, 2014 (in millions)	Risk-based capital	RWA
Standard Specific Risk:		
Securitization positions	\$ 1,061	\$ 13,259
Nonsecuritization positions	5,981	74,757
Total Standard Specific Risk	\$ 7,042	\$ 88,016

Other charges

Other charges represent the capital and RWA that predominantly relates to de minimis exposures. In prior quarters the impact of excluding the diversification benefit for certain VaR models was reflected in other charges. This impact is now reflected in VBM and SVBM.

December 31, 2014 (in millions)	Risk-based capital	RWA
Total Firm other charges	\$ 360	\$ 4,503

Independent review of market risk regulatory capital models

The Firm's Model Risk function within Model Risk and Development ("MRaD") reviews and approves market risk regulatory capital models used by the Firm. MRaD applies a consistent approach to evaluate the models used to calculate regulatory capital. The critical elements of the validation process are:

- An evaluation of the completeness of the risk factors for each product/instrument, and of the conceptual soundness of the risk factor simulation models;
- An analysis of model outcomes, including a comparison of the outputs with empirical experience and, where relevant, with alternative model specifications;
- An evaluation of the adequacy of model calibration procedures and model implementation testing performed by model developers; and
- An ongoing process to monitor the performance of models.

The evaluation of the soundness of a model seeks to assess the reasonableness of model specifications, and takes into consideration the purpose of the model and the state of current modeling technologies. The process to evaluate models also seeks to identify the main model assumptions, evaluate their adequacy, understand their strengths and weaknesses, and the impact that such assumptions may have on model output. MRaD requires that critical weaknesses that have been identified in models have remediation plans that include specific action steps and analyses to resolve deficiencies within a specified period of time.

The output of models, and the models' response to changes in inputs, are evaluated via outcome analysis, which include comparing model results against empirical evidence, comparing model results against the results obtained with alternative settings or models, and assessing the reasonableness of the sensitivity of model results to changes in portfolio and market inputs.

While evidence of the integrity of model implementation is collected throughout the entire validation process, MRaD dedicates a stand-alone workstream to assess the completeness and quality of the testing performed by model developers. The evaluation also considers operational risk, including access and change controls. Special attention is devoted to model inputs, in particular the quality of the specifications provided to model developers, and whether inputs require transformation or involve business logic prior to being input into the model.

MRaD also evaluates the approach used by model developers to ensure the numerical accuracy of the results, such as the setting of the number of trials in a Monte Carlo simulation or the number of points used in a numerical integration performed to revalue a financial instrument under different market conditions. To evaluate the testing performed on models, MRaD relies on walk-

through examples that describe the sequence of steps performed in calculations and specifies the outputs, including reported quantities and model diagnostics. Additional model testing may be requested of the model development team by MRaD or may be performed directly by MRaD. The model validation process requires ongoing monitoring of model performance. This includes periodic reviews of:

- Model results and sensitivity analysis of key model parameters for significant sub-portfolios and for benchmark test portfolios specified by MRaD;
- Results and impact analysis of model parameter recalibration; and
- Test results of the adequacy of the numerical settings in models.

For further information, refer to Model Risk Management on page 139 of the 2014 Form 10-K.

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 framework uses a grid-based approach, which calculates multiple magnitudes of stress for both market rallies and market sell-offs for each risk factor. Stress-test results, trends and explanations based on current market risk positions are reported to the Firm's senior management and to the lines of business 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.

Stress scenarios are defined and reviewed by Market Risk, and significant changes are reviewed by the relevant Risk Committees. While most of the scenarios estimate losses based on significant market moves, such as an equity market collapse or credit crisis, the Firm also develops scenarios to quantify risk arising from specific portfolios or concentrations of risks, which attempt to capture certain idiosyncratic market movements. Scenarios may be redefined on an ongoing basis to reflect current market conditions. Ad hoc scenarios are run in response to specific market events or concerns. The Firm's stress testing framework is utilized in calculating results under scenarios mandated by the Federal Reserve's CCAR and ICAAP processes.

- Refer to pages 106-109 of the 2014 Form 10-K for further information on Risk governance.

OPERATIONAL RISK

Operational risk is the risk of loss resulting from inadequate or failed processes or systems 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. To monitor and control operational risk, the Firm maintains an overall Operational Risk Management Framework ("ORMF") which comprises governance oversight, risk assessment, capital measurement, and reporting and monitoring. The ORMF is intended to enable the Firm to function with a sound and well-controlled operational environment.

Risk Management is responsible for prescribing the ORMF to the lines of business and corporate functions and to provide independent oversight of its implementation. In 2014, Operational Risk Officers ("OROs") were appointed across each line of business and corporate function to provide this independent oversight.

The lines of business and corporate functions are responsible for implementing the ORMF. The Firmwide Oversight and Control Group, comprised 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 review and monitoring of ORMF execution.

- Refer to pages 141-143 of the 2014 Form 10-K for a discussion of JPMorgan Chase's Operational Risk Management.

Capital measurement

Operational risk capital is measured primarily using a statistical model based on the Loss Distribution Approach ("LDA"). The operational risk capital model uses actual losses (internal and external to the Firm), an inventory of material forward-looking potential loss scenarios and adjustments to reflect changes in the quality of the control environment in determining Firmwide operational risk capital. This methodology is designed to comply with the Advanced Measurement rules under the Basel framework.

The Firm's capital methodology incorporates four required elements of the Advanced Measurement Approach ("AMA"):

- Internal losses,
- External losses,
- Scenario analysis, and
- Business environment and internal control factors ("BEICF").

The primary component of the operational risk capital estimate is the result of a statistical model, the 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 loss over a one-year time horizon, at a 99.9% confidence level. The LDA model incorporates actual operational 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 LDA is supplemented by 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 management judgment and feedback from its bank regulators.

- Refer to Regulatory capital on pages 146-153 of the 2014 Form 10-K for information related to operational risk RWA.

RWA rollforward

The following table presents the changes in operational risk RWA under Basel III Advanced Transitional for the three months ended December 31, 2014. The amounts in the rollforward categories are estimates, based on the predominant driver of the change.

Three months ended December 31, 2014 (in billions)	Basel III Advanced Transitional RWA
September 30, 2014	\$ 400
Model & data changes ^(a)	—
December 31, 2014	\$ 400

(a) Model & data changes refer to movements in levels of RWA as a result of revised methodologies and/or treatment per regulatory guidance (exclusive of rule changes).

INTEREST RATE RISK IN THE BANKING BOOK

The effect of interest rate exposure on the Firm's reported net income is 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 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 Risk Policy Committee of the Firm's Board of Directors. 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 Asset and Liability Committee.

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

The Firm conducts simulations of changes in structural interest rate-sensitive revenue under a variety of interest rate scenarios. Earnings-at-risk scenarios estimate the potential change in this revenue, and the corresponding impact to the Firm's pretax core net interest income, over the following 12 months utilizing multiple assumptions. These scenarios highlight exposures to changes in interest rates, pricing sensitivities on deposits, optionality and changes in product mix. The scenarios include forecasted balance sheet changes, as well as prepayment and reinvestment behavior. 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.

- Refer to page 136 of the 2014 Form 10-K for a detailed discussion of Earnings-at-risk.

JPMorgan Chase's 12-month pretax core net interest income sensitivity profiles.

(Excludes the impact of trading activities and MSRs)

(in millions)	Instantaneous change in rates			
	+200bps	+100bps	-100bps	-200bps
December 31, 2014	\$ 4,667	\$ 2,864	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 is largely a result of reinvesting at higher yields and assets re-pricing at a faster pace than deposits.

Additionally, another 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 core net interest income benefit of \$566 million. The increase in core net interest income under this scenario reflects the Firm reinvesting at the higher long-term rates, with funding costs remaining unchanged.

Valuation process

The accounting and financial reporting policies of JPMorgan Chase and its subsidiaries conform to accounting principles generally accepted in the U.S. (“U.S. GAAP”). Additionally, where applicable, the policies conform to the accounting and reporting guidelines prescribed by regulatory authorities. It is JPMorgan Chase’s policy to carry its covered positions at fair value.

Risk-taking functions are responsible for providing fair value estimates for assets and liabilities carried on the Consolidated balance sheets at fair value. The Firm’s valuation control function, which is part of the Firm’s Finance function and independent of the risk-taking functions, is responsible for verifying these estimates and determining any fair value adjustments that may be required to ensure that the Firm’s positions are recorded at fair value. In addition, the Firm has a firmwide Valuation Governance Forum (“VGF”) comprised of senior finance and risk executives to oversee 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, and also includes sub-forums for the Corporate & Investment Bank (“CIB”), Mortgage Banking, (part of Consumer & Community Banking) and certain corporate functions including Treasury and Chief Investment Office (“CIO”).

The valuation control function verifies fair value estimates provided by the risk-taking functions by leveraging independently derived prices, valuation inputs and other market data, where available. Where independent prices or inputs are not available, additional review is performed by the valuation control function to ensure the reasonableness of the estimates, and may include: evaluating the limited market activity including client unwinds; benchmarking of valuation inputs to those for similar instruments; decomposing the valuation of structured instruments into individual components; comparing expected to actual cash flows; reviewing profit and loss trends; and reviewing trends in collateral valuation. In addition there are additional levels of management review for more significant or complex positions.

The valuation control function determines any valuation adjustments that may be required to the estimates provided by the risk-taking functions. No adjustments are applied to the quoted market price for instruments classified within level 1 of the fair value hierarchy.

- Refer to Note 3 on pages 181-184 of the 2014 Form 10-K for more information on the fair value hierarchy.

For other positions, judgment is required to assess the need for valuation adjustments to appropriately reflect liquidity considerations, unobservable parameters, and, for certain portfolios that meet specified criteria, the size of the net open risk position. The determination of such adjustments follows a consistent framework across the Firm:

- Liquidity valuation adjustments are considered where an observable external price or valuation parameter exists but is of lower reliability, potentially due to lower market activity. Liquidity valuation adjustments are applied and determined based on current market conditions. Factors that may be considered in determining the liquidity adjustment include analysis of: (1) the estimated bid-offer spread for the instrument being traded; (2) alternative pricing points for similar instruments in active markets; and (3) the range of reasonable values that the price or parameter could take.

The Firm manages certain portfolios of financial instruments on the basis of net open risk exposure and, as permitted by U.S. GAAP, has elected to estimate the fair value of such portfolios on the basis of a transfer of the entire net open risk position in an orderly transaction. Where this is the case, valuation adjustments may be necessary to reflect the cost of exiting a larger-than-normal market-size net open risk position. Where applied, such adjustments are based on factors that a relevant market participant would consider in the transfer of the net open risk position including the size of the adverse market move that is likely to occur during the period required to reduce the net open risk position to a normal market-size.

- Unobservable parameter valuation adjustments may be made when positions are valued using prices or input parameters to valuation models that are unobservable due to a lack of market activity or because they cannot be implied from observable market data. Such prices or parameters must be estimated and are, therefore, subject to management judgment. Unobservable parameter valuation adjustments are applied to reflect the uncertainty inherent in the resulting valuation estimate.

Where appropriate, the Firm also applies adjustments to its estimates of fair value in order to appropriately reflect counterparty credit quality, the Firm’s own creditworthiness, and the impact of funding, applying a consistent framework across the Firm.

- Refer to Note 3 on pages 196-197 of the 2014 Form 10-K, for information on credit and funding valuation adjustments.

Valuation model review and approval

If prices or quotes are not available for an instrument or a similar instrument, fair value is generally determined using valuation models that consider relevant transaction data such as maturity and use as inputs market-based or independently sourced parameters. Where this is the case the price verification process described above is applied to the inputs to those models.

The Model Risk function is independent of the model owners and reviews and approves a wide range of models, including risk management, valuation and certain regulatory capital models used by the Firm. The Model Risk function is part of the Firm's Model Risk and Development unit, and the Firmwide Model Risk and Development Executive reports to the Firm's CRO. 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.

New significant valuation models, as well as material changes to existing valuation models, are reviewed and approved prior to implementation except where specified conditions are met. The Model Risk function performs an annual firmwide model risk assessment where developments in the product or market are considered in determining whether valuation models which have already been reviewed need to be reviewed and approved again.

Model risk management

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, but primarily for the measurement, monitoring and management of risk positions. Valuation models are employed by the Firm to value certain financial instruments that cannot otherwise be valued using quoted prices. These valuation models may also be employed as inputs to risk management models, including VaR and economic stress models. The Firm also makes use of models for a number of other purposes, including the calculation of regulatory capital requirements and estimating 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 (within the Model Risk and Development unit) 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 for changes 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 are independent of the model owners and they review and approve a wide range of models, including risk management, valuation and regulatory capital models used by the Firm. The Model Risk review and governance functions are part of the Firm's Model Risk and Development unit, and the Firmwide Model Risk and Development Executive reports to the Firm's CRO.

References to JPMorgan Chase's 2014 Form 10-K

JPMorgan Chase's 2014 Form 10-K contains important information on the Firm's risk management policies and practices, capital management processes, and accounting policies relevant to this report. Specific references are listed below.

Management's discussion and analysis

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