

JPMORGAN CHASE & Co.

PILLAR 3 REGULATORY CAPITAL DISCLOSURES

For the quarterly period ended June 30, 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 \$2.5 trillion in assets and \$227.3 billion in stockholders’ equity as of June 30, 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 bank with U.S. branches in 23 states, and Chase Bank USA, National Association (“Chase Bank USA, N.A.”), a national bank 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 also includes information on the methodologies used to calculate RWA.

This report should be read in conjunction with JPMorgan Chase’s Annual Report on Form 10-K for the year ended December 31, 2013 (“2013 Form 10-K”), and Quarterly Reports on Form 10-Q for the periods ended March 31, 2014 and June 30, 2014 (“1Q14 Form 10-Q” and “2Q14 Form 10-Q”), which include important information on risk management policies and practices. A disclosure map is contained on page 4 of this report and specific references have been made herein.

Basel III overview

Basel III consists of a three “Pillar” approach, including minimum capital requirements, supervisory review and market discipline.

- Pillar 1 - Minimum capital requirements: Establishes new approaches for calculating minimum regulatory capital requirements for exposure to credit risk and operational risk while retaining the approach to market risk as developed in Basel I;
- Pillar 2 - Supervisory review: Requires banks to have an internal capital assessment process and requires that

banking supervisors evaluate each bank’s overall risk profile as well as its risk management and internal control processes. This Pillar establishes an expectation that banks hold capital beyond the minimums computed under Pillar 1, including additional capital for any risks that are not adequately captured under Pillar 1; and

- Pillar 3 - Market discipline: Sets minimum disclosure requirements for banks, which covers the composition and structure of a bank’s capital, the nature of its risk exposures, its risk management and internal control processes, and its capital adequacy. The requirements are intended to improve transparency and strengthen market discipline through enhanced public disclosure of the Firm’s risk management practices and regulatory capital ratios.

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 commencing January 1, 2014 through the end of 2018 (“Transitional period”) as described below. For large and internationally active banks, including the Firm and its insured depository institution (“IDI”) subsidiaries, both Basel III Standardized and Basel III Advanced became effective commencing January 1, 2014.

Definition of 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 postretirement employee benefit (“OPEB”) plans), less certain deductions for goodwill, mortgage servicing rights (MSRs) and deferred tax assets that arise from net operating loss and tax credit carryforwards. Tier 1 capital is predominantly comprised of CET1 capital as well as perpetual preferred stock. Tier 2 capital includes Tier 1 capital as well as long-term debt qualifying as Tier 2 and qualifying allowance for credit losses. The revisions to CET1 capital, Tier 1 capital and Tier 2 capital are subject to phase-in periods commencing January 1, 2014, through the end of 2018, and during that period, CET1 capital, Tier 1 capital and Tier 2 capital represent Basel III Transitional capital.

Risk-weighted assets

Basel III establishes two comprehensive methodologies for calculating RWA, a Standardized approach and an Advanced approach. Key differences in the calculation of RWA between the Standardized and Advanced approaches include: (1) 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, RWA is generally based on supervisory risk-weightings which vary only by counterparty type and asset class; and (2) Basel III Advanced includes RWA for operational risk, whereas Basel III Standardized does not. In addition to the RWA calculated under these methodologies, the Firm may supplement such amounts to incorporate management judgment and feedback from its bank regulatory agencies.

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, including human errors, or due to external events that are neither market- nor credit-related.

Covered position definition

The covered position definition determines which positions are subject to market risk RWA treatment.

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

The following table presents the Firm’s total risk-weighted assets under Basel III Advanced Transitional at June 30, 2014.

(in millions)	Basel III Advanced Transitional RWA June 30, 2014
Credit risk	
Retail exposures	\$ 279,643
Wholesale exposures	417,210
Counterparty exposures	121,960
Securitization exposures ^(a)	44,497
Equity exposures	54,107
Other exposures ^(b)	90,123
CVA	41,569
Total credit risk	1,049,109
Total market risk^(c)	177,318
Total operational risk	400,000
Total RWA	\$ 1,626,427

(a) Represents banking book securitization RWA only.

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

(c) Includes \$15.3 billion of trading book securitization RWA.

Transitional period

The basis to calculate the Firm's capital ratios under Basel III during the transitional period and when fully phased-in are shown in the table below. Other than where clearly indicated, the numbers throughout this report represent Basel III Advanced Transitional.

	Transitional period			Fully Phased-In
	2Q14 - 4Q14	2015 - 2017	2018	2019+
Capital (Numerator)	Basel III Transitional Capital ^(a)			Basel III Capital
RWA (Denominator)	Standardized Approach	Basel I with 2.5	Basel III Standardized	
	Advanced Approach	Basel III Advanced		

(a) Trust preferred securities ("TruPS") are to be phased out from inclusion in Basel III Capital commencing January 1, 2014, through the end of 2021.

Scope of application

The Basel III framework applies to JPMorgan Chase & Co.

Basis of consolidation

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

Capital in subsidiaries

At June 30, 2014, JPMorgan Chase did not have any subsidiaries whose regulatory capital was less than the minimum required regulatory capital amount.

At June 30, 2014, the aggregate capital surplus of insurance subsidiaries included in regulatory capital was \$1.0 billion.

Restrictions on capital

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, the Firm and certain other affiliates, and on investments in stock or securities of JPMorgan Chase and those affiliates.

- Refer to the Restrictions on transactions with affiliates section in Part I, Item 1 on page 7 of JPMorgan Chase's 2013 Form 10-K.
- Refer to Note 27 on page 316 of JPMorgan Chase's 2013 Form 10-K for information on restrictions on cash and intercompany funds transfers.

In addition, refer to Note 22 on page 309 of JPMorgan Chase's 2013 Form 10-K for further information.

At June 30, 2014, JPMorgan Chase estimated that its banking subsidiaries could pay, in the aggregate, approximately, \$39.0 billion in dividends to their respective bank holding companies without the prior approval of their relevant banking regulators. The capacity to pay dividends in 2014 will be supplemented by the banking subsidiaries' earnings during the remainder of 2014.

JPMorgan Chase Bank, N.A. is subject to examination and regulation by the OCC. The Bank is a member of the U.S. Federal Reserve System, and its deposits in the U.S. are insured by the FDIC.

The Federal Reserve requires depository institutions to maintain cash reserves with a Federal Reserve Bank. The average amount of reserve balances deposited by the Firm's bank subsidiaries with various Federal Reserve Banks was approximately \$9.4 billion as of June 30, 2014.

In compliance with rules and regulations established by U.S. and non-U.S. regulators, as of June 30, 2014, cash in the amount of \$16.3 billion and securities with a fair value of \$7.7 billion were segregated in special bank accounts for the benefit of securities and futures brokerage customers. In addition, as of June 30, 2014, the Firm had other restricted cash of \$3.7 billion, primarily representing cash reserves held at non-U.S. central banks and held for other general purposes.

DISCLOSURE MAP

Pillar 3 Requirement	Description	Pillar 3 Report page reference	2Q14 Form 10-Q page reference	2013 Form 10-K page reference
Capital structure	Terms and conditions of capital instruments	6		1, 306, 309, 310
	Capital components	6	92	
Capital adequacy	Capital adequacy assessment process	7	74	160
	Risk-weighted assets by risk stripe	2		
	Capital ratios	8	168	
Credit risk: general disclosures	Policies and practices	9	51	117, 219, 249, 258, 284, 318
	Credit risk exposures	10	51, 72	
	<u>Retail</u>			
	Distribution of exposure	10	53, 136, 149, 171	
	Impaired loans and ALLL	10	137, 153	
	<u>Wholesale</u>			
	Distribution of exposure	10	60, 128, 150, 171	
	Impaired loans and ALLL	10	151, 153	
Credit risk: IRB	Parameter estimation methods	11,14		
	RWA	9, 12, 13, 15		
Counterparty credit	Parameter estimation methods	16		
	Policies and practices	16		220, 255, 325
	Counterparty credit risk exposure	17	53, 60, 113, 132	
	Credit derivatives purchased and sold	10	65, 123	
Credit risk mitigation	Policies and practices	10		220, 258, 325
	Exposure covered by guarantees and CDS	15, 17		
Securitization	Objectives, vehicles, accounting policies	18	15, 154	95, 195, 220, 288
	Securitization RWA	19		
	Securitization exposure	20		
	Assets securitized	20		
	Current year securitization activity	20		
Market risk	Material portfolio of covered positions	22		
	Value-at-risk	23	69	144
	Regulatory market risk capital models	24		
	Stress testing	28	70	146, 147
Operational risk	Operational risk management policies	30	73	155
	Description of AMA	30	73	
Equity investments in the banking book	Policies and practices	21		154, 189, 200, 237, 249
	Carrying value and fair value	21	97, 128	
	Realized and unrealized gains/(losses)	21		
	Equity investments by risk weight	21		
Interest rate risk in the banking book	Nature, assumptions, frequency of measurement	31	71	147
	Earnings sensitivity to rate shocks	31	71	

ENTERPRISE-WIDE RISK MANAGEMENT

Risk is an inherent part of JPMorgan Chase's business activities. The Firm employs a holistic approach to risk management that is intended to ensure the broad spectrum of risk types inherent in the Firm's business activities are considered in managing its business activities.

The Firm believes effective risk management requires:

- Personal responsibility for risk management, including identification and escalation of risk issues by all individuals within the Firm;
- Ownership of risk management within each line of business; and
- Firmwide structures for risk governance and oversight.

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 designed to create a culture of risk transparency and awareness, and personal responsibility throughout the Firm where collaboration, discussion, escalation and sharing of information are encouraged. The CEO, CFO, CRO and COO are ultimately responsible and accountable to the Firm's Board of Directors.

Employees are expected to operate with the highest standards of integrity and identify, escalate, and actively manage risk issues. 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's overall objective in managing risk is to protect the safety and soundness of the Firm, and avoid excessive risk taking.

The Firm has identified various risks that are inherent in its business activities. Risks that are centrally managed include capital risk, liquidity risk, non-U.S. dollar foreign exchange risk and structural interest rate risk. Risks that are managed on a line of business ("LOB") aligned basis include country risk, credit risk, fiduciary risk, legal risk, market risk, model risk, operational risk, principal risk, regulatory and compliance risk, and reputation risk.

Risk governance and oversight

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.

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.

The CRO is responsible for the overall direction of the Firm's Risk Management function and is the head of the Risk Management Organization. The LOBs and legal entities are ultimately responsible for managing the risks inherent in their respective business activities.

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

- Refer to pages 113-173 of JPMorgan Chase's 2013 Form 10-K for more information on Enterprise-Wide Risk Management.

CAPITAL STRUCTURE

A reconciliation of total stockholders' equity to common equity Tier 1 capital ("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 92 of JPMorgan Chase's 2Q14 Form 10-Q for the components of total stockholders' equity.

June 30, 2014 (in millions)	Basel III Advanced Transitional
Total stockholders' equity	\$ 227,314
Less: Preferred stock	18,463
Common stockholders' equity	208,851
Less: AOCI adjustment ^(a)	2,859
CET1 capital before regulatory adjustments	205,992
Less:	
Goodwill net of deferred tax liabilities	45,286
Other CET1 adjustments	620
CET1 capital	160,086
Preferred stock	18,463
Other Tier 1 capital adjustments	2,715
Less: Tier 1 capital deductions	1,380
Total Tier 1 capital	179,884
Tier 2 capital adjustments	23,264
Less: Tier 2 capital deductions	72
Tier 2 capital	23,192
Total capital	\$ 203,076

- (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 quarterly and annual SEC disclosures.

- Refer to Note 22 on page 309, and Note 23 on page 310, respectively, of JPMorgan Chase's 2013 Form 10-K for additional information on preferred stock and common stockholders' equity.
- Refer to Note 21 on pages 306-308 of JPMorgan Chase's 2013 Form 10-K for information on trust preferred securities.
- Refer to the Supervision and regulation section in Part I, Item 1 on pages 1-9 of JPMorgan Chase's 2013 Form 10-K.

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 160-167 of JPMorgan Chase's 2013 Form 10-K for information on capital strategy and governance.

Regulatory capital

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. The Office of the Comptroller of the Currency ("OCC") establishes similar capital requirements and standards for the Firm's national banks, including JPMorgan Chase Bank, N.A. and Chase Bank USA, N.A.

The following table presents the minimum ratios to which the Firm and its national bank subsidiaries are subject as of June 30, 2014.

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

- (a) 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.
- (b) As defined by the regulations issued by the Federal Reserve, OCC and FDIC. In addition to the 2014 well-capitalized standards, beginning January 1, 2015, Basel III Transitional CET1 capital and the Basel III Standardized Transitional and the Basel III Advanced Transitional CET1 capital ratios become relevant capital measures under the prompt corrective action requirements defined by the regulations.

As of June 30, 2014, and December 31, 2013, JPMorgan Chase and all of its banking subsidiaries were well capitalized and met all capital requirements to which each was subject. Capital ratios for the Firm's significant banking subsidiaries are presented on the following page.

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 in the lower ratio (the "Collins Floor"), as required by the Collins Amendment of the Dodd-Frank Act 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 banking subsidiaries under both Basel III Standardized Transitional and Basel III Advanced Transitional at June 30, 2014.

	JPMorgan Chase & Co. ^(d)	
	Basel III Standardized Transitional	Basel III Advanced Transitional
(in millions, except ratios)	June 30, 2014	June 30, 2014
Regulatory capital		
CET1 capital	\$ 160,086	\$ 160,086
Tier 1 capital ^(a)	179,884	179,884
Total capital	213,780	203,076
Assets		
Risk-weighted	\$ 1,458,620	\$ 1,626,427
Adjusted average ^(b)	2,374,025	2,374,025
Capital ratios^(c)		
CET1	11.0%	9.8%
Tier 1 ^(a)	12.3	11.1
Total	14.7	12.5
Tier 1 leverage	7.6	7.6

	JPMorgan Chase Bank, N.A. ^(d)	
	Basel III Standardized Transitional	Basel III Advanced Transitional
(in millions, except ratios)	June 30, 2014	June 30, 2014
Regulatory capital		
CET1 capital	\$ 149,961	\$ 149,961
Tier 1 capital ^(a)	149,961	149,961
Total capital	168,636	160,749
Assets		
Risk-weighted	\$ 1,241,565	\$ 1,349,140
Adjusted average ^(b)	1,895,540	1,895,540
Capital ratios^(c)		
CET1	12.1%	11.1%
Tier 1 ^(a)	12.1	11.1
Total	13.6	11.9
Tier 1 leverage	7.9	7.9

Chase Bank USA, N.A.^(d)

	Chase Bank USA, N.A. ^(d)	
	Basel III Standardized Transitional	Basel III Advanced Transitional
(in millions, except ratios)	June 30, 2014	June 30, 2014
Regulatory capital		
CET1 capital	\$ 13,626	\$ 13,626
Tier 1 capital ^(a)	13,626	13,626
Total capital	19,526	18,276
Assets		
Risk-weighted	\$ 98,509	\$ 154,964
Adjusted average ^(b)	114,031	114,031
Capital ratios^(c)		
CET1	13.8%	8.8%
Tier 1 ^(a)	13.8	8.8
Total	19.8	11.8
Tier 1 leverage	12.0	12.0

(a) At June 30, 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 June 30, 2014, Chase Bank USA, N.A. had no trust preferred securities.

(b) Adjusted average assets, for purposes of calculating the leverage ratio, include 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) Beginning April 1, 2014, the lower 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.

CREDIT RISK

Credit risk is the risk of loss from obligor or counterparty default. 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/Private Equity 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/Private Equity.

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”) taken to 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 117-141 of JPMorgan Chase’s 2013 Form 10-K.
- Refer to the Notes to the Consolidated Financial Statements beginning on page 189 of JPMorgan Chase’s 2013 Form 10-K. Specific page references are contained in the Appendix of this report.

Summary of credit risk RWA

Credit risk RWA captures the risks described in this section as well as equity investments and securitization exposures in the banking book, other assets that are not elsewhere classified, non-material portfolios, and unsettled transactions. The following table presents the Firm’s total credit risk RWA at June 30, 2014.

June 30, 2014 (in millions)	Basel III Advanced Transitional RWA
Retail exposures	\$ 279,643
Wholesale exposures	417,210
Counterparty exposures	121,960
Securitization exposures	44,497
Equity exposures	54,107
Other exposures	90,123
CVA	41,569
Total credit risk RWA	\$ 1,049,109

Credit risk RWA rollforward

The following table presents the changes in credit risk RWA under Basel III Advanced Transitional for the three months ended June 30, 2014. The amounts in the rollforward categories are estimates, based on the predominant driver of the change.

Three months ended June 30, 2014 (in billions)	Basel III Advanced Transitional RWA
April 1, 2014	\$ 1,055
Rule changes ^(a)	–
Model & data changes ^(b)	10
Portfolio runoff ^(c)	(6)
Movement in portfolio levels ^(d)	(10)
Change in RWA	(6)
June 30, 2014	\$ 1,049

- (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 rollofts in legacy portfolios.
- (d) Movement in portfolio levels refers to changes in position and market movements.

Credit risk exposure

Credit risk exposure as reported under U.S. GAAP for the quarterly period ended June 30, 2014 are contained in JPMorgan Chase's 2Q14 Form 10-Q. Specific references are listed below.

Traditional credit products

- Refer to Credit Risk Management beginning on page 51 in JPMorgan Chase's 2Q14 Form 10-Q for credit-related information on the Consumer and Wholesale portfolios.
- Refer to Note 13 on pages 134-152 of JPMorgan Chase's 2Q14 Form 10-Q for the distribution of loans by geographic region and industry.
- Refer to Note 21 on pages 170-173 of JPMorgan Chase's 2Q14 Form 10-Q for the contractual amount and geographic distribution of lending-related commitments.

Counterparty credit risk

- Refer to Note 5 on pages 113-123 of JPMorgan Chase's 2Q14 Form 10-Q for gross positive fair value, netting benefits, and net exposure of derivative receivables.
- Refer to Derivative Contracts on pages 64-65 of JPMorgan Chase's 2Q14 Form 10-Q for credit derivatives used in credit portfolio management activities.
- Refer to Note 12 on pages 132-133 of JPMorgan Chase's 2Q14 Form 10-Q for gross and net securities purchased under resale agreements and securities borrowed.
- Refer to the Consumer credit portfolio section on pages 52-59, and to the Wholesale credit portfolio section on pages 60-65 of JPMorgan Chase's 2Q14 Form 10-Q for margin loans asset balance.

Investment securities

- Refer to Note 11 on pages 128-131 of JPMorgan Chase's 2Q14 Form 10-Q for the securities portfolio by issuer type.

Country risk

- Refer to page 72 of JPMorgan Chase's 2Q14 Form 10-Q for the top 20 country exposures.

Allowance for credit losses

- Refer to Allowance for Credit Losses on pages 66-68 for a summary of changes in the allowance for loan losses.
- Refer to Note 14 on page 153 of JPMorgan Chase's 2Q14 Form 10-Q for allowance for credit losses and loans and lending-related commitments by impairment methodology.

Average balances

- Refer to page 184 of JPMorgan Chase's 2Q14 Form 10-Q 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. Management of the Firm's wholesale exposure is accomplished through loan syndications and participations, loan sales, securitizations, credit derivatives, use of 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 bureau information, 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 risk scores, 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 closed-end mortgages, home equity loans, home equity lines of credit and business banking exposures that are primarily secured by residential real estate. This also includes a small portfolio of reverse mortgages. Qualifying revolving exposures ("QRE") include all card exposures with lines of credit less than \$100,000. This category also includes a small charge card portfolio with less than \$100,000 effective credit limit. Other retail includes all exposures not classified as residential mortgage or QRE. This includes personal auto finance loans, education 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 retail exposures. The overall capital requirement for a given retail subcategory fluctuates based on the shift across product 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 is defined as the Firm's best estimate of the long-run, through-the-cycle average one-year default rate. 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 through-the-cycle estimate.

Loss given default for a given segment is defined as the Firm's best estimate of expected loss per dollar of EAD under downturn 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 out-of-time validation results, shifts in risk management strategies, regulatory guidance or risk modeling best practices. Any changes to the segments model or parameter estimates are approved by senior risk executives in the relevant sub-line of business and implementation of model changes are adequately 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.

June 30, 2014 (in millions)	Basel III Advanced Transitional RWA	
Residential mortgages	\$	157,534
Qualifying revolving		93,628
Other retail		28,481
Total retail credit RWA	\$	279,643

Residential mortgage exposures

The following table includes all residential mortgage exposures that are closed-end first lien, closed-end junior lien and revolving (i.e., term loans and revolving home equity lines of credit). Closed-end first lien exposures represent approximately 70% of the balance sheet amount, revolving exposures approximately 28%, with the remaining related to closed-end junior liens. Most revolving balances were originated prior to 2010 and drive over 40% of the total risk weight of this portfolio, with one-half of the balances above a PD of 0.50%. Recent originations, in contrast, are predominantly reflected in the less than 0.75% PD ranges. 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.

June 30, 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	\$ 26,057	\$ 22,576	\$ 28,488	\$ 1,999	0.04%	51.04%	7.02%
0.10 to < 0.20	64,374	3,428	65,893	8,429	0.15	37.67	12.79
0.20 to < 0.75	45,750	7,405	50,662	19,938	0.43	54.47	39.35
0.75 to < 5.50	46,762	1,792	48,140	64,970	2.22	64.27	134.96
5.50 to < 10.00	6,039	13	6,050	16,042	6.93	67.79	265.18
10.00 to < 100	7,904	5	7,903	24,626	27.27	63.18	311.60
100 (default)	25,505	—	25,506	21,530	100.00	—	84.41
Total	\$ 222,391	\$ 35,219	\$ 232,642	\$ 157,534	12.67%	45.99%	67.72%

Qualifying revolving exposures

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

June 30, 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	\$ 34,647	\$ 434,833	\$ 164,333	\$ 9,430	0.10%	92.21%	5.74%
0.50 to < 2.00	28,938	53,327	37,209	15,294	1.15	92.51	41.10
2.00 to < 3.50	36,213	7,341	36,370	29,740	2.90	92.22	81.77
3.50 to < 5.00	3,829	1,894	3,902	4,199	4.13	94.81	107.60
5.00 to < 8.00	1,999	636	2,062	2,879	6.33	93.20	139.62
8.00 to < 100	16,816	1,346	16,826	32,086	17.96	92.89	190.69
100 (default)	—	—	—	—	—	—	—
Total	\$ 122,442	\$ 499,377	\$ 260,702	\$ 93,628	1.90%	92.34%	35.91%

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). 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.

June 30, 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	\$ 33,760	\$ 7,206	\$ 38,175	\$ 5,660	0.17%	37.00%	14.83%
0.50 to < 2.00	14,593	3,099	17,175	8,897	1.04	48.85	51.80
2.00 to < 3.50	3,721	88	3,807	3,440	2.63	62.62	90.35
3.50 to < 5.00	1,980	121	2,102	1,802	4.19	55.71	85.73
5.00 to < 8.00	2,015	891	2,914	2,863	6.44	60.91	98.25
8.00 to < 100	3,443	14	3,449	4,772	22.33	64.75	138.36
100 (default)	1,187	—	1,187	1,047	100.00	—	88.23
Total	\$ 60,699	\$ 11,419	\$ 68,809	\$ 28,481	3.75%	43.71%	41.39%

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/Private Equity 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. Risk-ratings are assigned to each obligor and credit facility to differentiate risk within the portfolio. These risk-ratings are reviewed on an ongoing basis 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 booked 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 from 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 agency default rates.

Regulatory LGD is defined as an estimate of losses given a default event under downturn 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 past 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 downturns whenever the downturn effects are statistically significant.

Model Risk and Development ("MRaD") performs periodic analysis of historical time series credit risk data to validate the PD, LGD and EAD parameters.

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 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.

Risk-weighted assets

The following 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”).

June 30, 2014 (in millions)	Basel III Advanced Transitional RWA
Corporate	\$ 337,373
Bank	35,622
Sovereign	10,908
Income-producing real estate	31,876
High volatility commercial real estate	1,431
Total wholesale credit RWA	\$ 417,210

Wholesale exposures

The following table presents wholesale exposures by PD range. Exposures in the first two bands are predominantly investment grade.

June 30, 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	\$ 742,988	\$ 280,893	\$ 940,414	\$ 142,307	0.05%	27.95%	15.13%
0.15 to < 0.50	108,556	114,277	172,673	86,562	0.28	39.50	50.13
0.50 to < 1.35	139,517	66,261	178,639	98,561	0.79	28.63	55.17
1.35 to < 10.00	48,255	40,496	71,876	77,829	3.88	37.42	108.28
10.00 to < 100	4,271	2,820	5,924	10,050	22.77	39.36	169.65
100 (default)	1,569	250	1,793	1,901	100.00	37.64	106.00
Total	\$ 1,045,156	\$ 504,997	\$ 1,371,319	\$ 417,210	0.60%	30.05%	30.42%

Credit risk mitigation

The risk mitigating benefit of 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 June 30, 2014, capital relief for credit risk mitigation has been applied to \$62.8 billion of EAD for wholesale exposures.

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 document. 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. Alternatively, the regulatory EAD may be calculated as the exposure at the end of the first margin period of risk.

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 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 netting agreement (“netting set”) plus an add-on for potential future exposure over the holding period of the transaction. The add-on is determined by applying standard supervisory market price volatility haircuts to the securities in the netting set, as well as an additional haircut for currency mismatches.

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;
- Securities lending indemnification agreements and guarantees; and
- Potential future exposure.

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 credit. 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.

June 30, 2014 (in millions)	Basel III Advanced Transitional RWA
OTC Derivatives	\$ 80,765
Repo-style transactions	24,833
Margin loans	2,932
Cleared transactions ^(a)	13,430
Total counterparty credit RWA	\$ 121,960

(a) Cleared transactions include futures and options, OTC derivatives, and repo-style transactions that the Firm has entered into with a central counterparty (“CCP”). CCPs facilitate trades between counterparties by either guaranteeing trades or novating contracts. Basel III introduced new capital requirements for cleared transactions.

Counterparty credit exposures

The following table presents EAD, PD, and LGD for OTC derivatives, and netted repo-style transactions. The table does not include margin loans or cleared transactions.

June 30, 2014
(in millions, except ratios)

PD range (%)	EAD	RWA	Exposure-weighted average		
			PD	LGD	Risk weight
0.00 to < 0.15	\$ 175,440	\$ 51,920	0.10%	42.96%	29.59%
0.15 to < 0.50	37,246	18,422	0.27	43.89	49.46
0.50 to < 1.35	26,363	20,739	0.85	43.34	78.67
1.35 to < 10.00	10,355	13,150	3.57	43.88	127.00
10.00 to < 100	286	915	22.89	52.04	319.85
100 (default)	426	452	100.00	41.70	106.00
Total	\$ 250,116	\$ 105,598	0.55%	43.19%	42.22%

Credit risk mitigation

The risk mitigating benefit of 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 June 30, 2014, capital relief for credit risk mitigation has been applied to \$8.6 billion of EAD for OTC derivatives to reflect the credit risk mitigating benefit of 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 desk, 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%.

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. JPMorgan Chase securitization exposures that have been deducted from capital total \$0.3 million.

June 30, 2014 (in millions)	Securitization								
	SFA		SSFA		1250%		Total		
	Exposure	RWA	Exposure	RWA	Exposure	RWA	Exposure	RWA	
Risk weight									
= 0% ≤ 20%	\$ 73,156	\$ 15,500	\$ 64,489	\$ 13,619	\$ –	\$ –	\$ 137,645	\$ 29,119	
> 20% ≤ 50%	4,766	1,533	4,693	1,421	–	–	9,459	2,954	
> 50% ≤ 100%	567	513	2,861	1,988	–	–	3,428	2,501	
> 100% < 1250%	55	357	3,121	10,225	–	–	3,176	10,582	
= 1250%	93	1,167	321	4,058	512	6,570	926	\$ 11,795	
Securitization, excluding re-securitization	\$ 78,637	\$ 19,070	\$ 75,485	\$ 31,311	\$ 512	\$ 6,570	\$ 154,634	\$ 56,951	

June 30, 2014 (in millions)	Re-securitization								
	SFA		SSFA		1250%		Total		
	Exposure	RWA	Exposure	RWA	Exposure	RWA	Exposure	RWA	
Risk weight									
= 0% ≤ 20%	\$ 923	\$ 194	\$ 345	\$ 73	\$ –	\$ –	\$ 1,268	\$ 267	
> 20% ≤ 50%	–	–	136	49	–	–	136	49	
> 50% ≤ 100%	4	4	158	114	–	–	162	118	
> 100% < 1250%	25	65	379	1,173	–	–	404	1,238	
= 1250%	23	283	15	191	50	653	88	\$ 1,127	
Re-securitization^(a)	\$ 975	\$ 546	\$ 1,033	\$ 1,600	\$ 50	\$ 653	\$ 2,058	\$ 2,799	

Total securitization^(b)	\$ 79,612	\$ 19,616	\$ 76,518	\$ 32,911	\$ 562	\$ 7,223	\$ 156,692	\$ 59,750	
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(a) During the three months ended June 30, 2014, there were no re-securitizations to which credit risk mitigation has been applied.

(b) Total securitization RWA includes \$15.3 billion of RWA on trading book exposure of \$7.4 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.

June 30, 2014 (in millions)	Exposure			RWA
	On-balance sheet ^{(a)(b)}	Off-balance sheet	Total	
Collateral type:				
Residential mortgage	\$ 56,716	\$ 1,026	\$ 57,742	\$ 23,813
Commercial mortgage	22,943	353	23,296	13,228
Auto loans	38,826	448	39,274	11,171
Student loans	14,800	299	15,099	4,175
Credit cards	6,754	14	6,768	1,831
Other	7,232	7,281	14,513	5,532
Total securitization exposure	\$ 147,271	\$ 9,421	\$ 156,692	\$ 59,750

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

(b) Includes the counterparty credit risk EAD associated with derivatives facing securitization structures.

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.

June 30, 2014 (in millions)	Principal amount outstanding			
	JPMorgan Chase assets held in traditional securitizations ^(a)	Third-party assets held in traditional securitizations	JPMorgan Chase assets held in synthetic securitizations	Assets impaired or past due ^(b)
Residential mortgage	\$ 114,734	\$ 19	\$ 1,919	\$ 19,552
Commercial mortgage	54,880	29,807	—	30
Commercial and industrial	5,138	—	2,268	—
Consumer auto	—	—	—	—
Student loans	820	—	—	60
Other	12,405	—	—	—
Total	\$ 187,977	\$ 29,826	\$ 4,187	\$ 19,642

(a) Represents assets held in nonconsolidated securitization VIEs.

(b) Represents assets 90 days past due or more 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 six months ended June 30, 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.

June 30, 2014 (in millions)	Carrying value	Original principal amount	
	Assets pending securitization	Assets securitized with retained exposure	Assets securitized without retained exposure
Residential mortgage	\$ 977	\$ 1,098	\$ 188
Commercial mortgage	3,782	3,202	1,446
Commercial and industrial	—	2,165	401
Consumer auto	—	—	—
Student loans	18	—	—
Other	—	374	—
Total	\$ 4,777	\$ 6,839	\$ 2,035

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.

Private equity investments are held primarily based on the expectation of capital gains. All other equity and investment fund positions are held primarily for reasons other than capital gains, including strategic purposes.

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 237 and 241-242 of JPMorgan Chase’s 2013 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 154 of JPMorgan Chase’s 2013 Form 10-K for a discussion of principal risk management related to privately-held investments.
- Refer to Note 1 on pages 189-191 of JPMorgan Chase’s 2013 Form 10-K for further discussion of the accounting for investments in unconsolidated subsidiaries.
- Refer to Note 3 on pages 195-215 of JPMorgan Chase’s 2013 Form 10-K for a discussion of the valuation of private equity investments and other fund investments (i.e., mutual/collective investment funds, private equity funds, hedge funds and real estate funds).
- Refer to Note 12 on pages 249-254 of JPMorgan Chase’s 2013 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. Under these approaches, RWA is determined by calculating RWA 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 SRWA, the Firm applies the regulatory prescribed risk weights to the carrying value of each equity exposure. The table below presents the carrying value and RWA by risk weight. Unfunded commitments for equity investments of \$821 million are included.

June 30, 2014 (in millions)		
Risk-weight category	Carrying value ^(a)	RWA
0%	\$ 3,435	\$ –
20%	3,125	663
100%	27,959	29,637
300%	–	–
400%	1,160	4,918
600%	1,045	6,646
Look-through	17,785	12,243
Total	\$ 54,509	\$ 54,107

(a) The carrying value excludes unrealized gains on AFS mutual funds.

Carrying value and fair value

The following table presents the carrying value and fair value of equity investments. The table below excludes unfunded commitments for equity investments of \$821 million at June 30, 2014.

June 30, 2014 (in millions)	Carrying value ^(a)	Fair value ^(a)
Publicly traded	\$ 25,795	\$ 26,070
Non-publicly traded	27,893	31,141
Total	\$ 53,688	\$ 57,211

(a) The carrying value and fair value of the private equity investment portfolio were \$5.6 billion and \$5.4 billion, respectively.

Realized and unrealized gains/(losses)

Realized gains/(losses) from sales and liquidations were \$581 million for the three months ended June 30, 2014.

At June 30, 2014 (in millions)	Cumulative unrealized gains/(losses), pre-tax
Recognized on the Consolidated Balance Sheet in AOCI ^(a)	\$ 14
Unrecognized gains/(losses) related to investments carried at cost	\$ 3,725

(a) Applicable only to AFS equity securities. Cumulative unrealized gains of \$5 million were included in Tier 2 capital per Basel III rules.

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. In addition to general market risk, the calculation of market risk RWA also captures specific risk of debt and equity positions.

For a discussion of the Firm's market risk management organization, risk identification and classification, and tools to measure risk, see Market Risk Management on pages 142-148 of JPMorgan Chase's 2013 Form 10-K. For a discussion of the Firm's risk monitoring and control and market risk limits, see Limits on page 148 of JPMorgan Chase's 2013 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 June 30, 2014. The components of market risk RWA are discussed in detail in the "Regulatory market risk capital models" section on pages 24-28 of this report. RWA is calculated as RBC times a multiplier of 12.5; any differences in this section are due to rounding.

Market risk (in millions)	Risk-based capital ^(c)	RWA
Internal models		
Value-at-Risk based measure ("VBM") ^(a)	\$ 465	\$ 5,812
Stressed Value-at-Risk based measure ("SVBM") ^(a)	1,395	17,435
Incremental risk charge ("IRC") ^(a)	442	5,522
Comprehensive risk measure ("CRM") ^(a)	1,909	23,865
Total internal models	4,211	52,633
Standard Specific risk		
Securitization positions	1,220	15,253
Nonsecuritization positions	6,677	83,459
Other charges ^(b)	2,078	25,973
Total Market risk	\$ 14,185	\$ 177,318

- (a) Represents the capital and RWA related to positions for which the Firm has received supervisory approval for model-based capital treatment as of June 30, 2014.
- (b) Represents the capital and RWA that predominantly relates to positions for which the Firm has not received supervisory approval for model-based VBM and SVBM as of June 30, 2014.
- (c) For modeled components, RBC reflects the higher of the quarterly average and period-end spot measure under Basel III.

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 June 30, 2014. The amounts in the rollforward categories are estimates, based on the predominant driver of the change.

Three months ended June 30, 2014 (in billions)	Basel III Advanced Transitional RWA
April 1, 2014	\$ 195
Rule changes ^(a)	–
Model & data changes ^(b)	(7)
Portfolio runoff ^(c)	(3)
Movement in portfolio levels ^(d)	(8)
Change in RWA	(17)
June 30, 2014	\$ 177

- (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 84-85 and 98-102 of JPMorgan Chase's 10-K, and on page 4 and pages 34-39 of JPMorgan Chase's 2Q14 Form 10-Q for a discussion of CIB 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 consistent with the day-to-day risk decisions made by the lines of business. 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 approach assumes that historical changes in market values are representative of the distribution of potential outcomes in the immediate future.

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. In addition to VaR, the Firm considers other measures such as stress testing to capture and manage its market risk positions.

- Refer to the “Stress tests applied to positions subject to market risk” section on page 28 of this Pillar 3 Report for further information on stress testing.

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.

Risk management VaR comparison to Regulatory VaR

The Firm’s 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 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 the one-day, Regulatory VaR estimates not more than once every 100 trading days.

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; default events are covered by the IRC or CRM measures as discussed below. The results of the Firm’s VBM are converted to capital requirements based on the application of multipliers specified by Basel III. The capital requirements are 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 continuously 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 to risk-based capital and risk-weighted assets based on the application of regulatory multipliers as specified by Basel III.

June 30, 2014 (in millions)	VBM	Risk-based capital ^(a)	RWA
Firm modeled VBM	\$ 155	465	\$ 5,812

(a) The modeled VBM is subject to a regulatory multiplier that is set at a minimum of 3 (which is the multiplier used in this table) and can be increased up to 4, depending upon the number of backtesting band breaks.

For the three months ended June 30, 2014, JPMorgan Chase’s average CIB VBM was \$158 million, compared with average Risk Management CIB trading and credit portfolio VaR of \$43 million. The CIB VBM was higher predominantly due to the longer holding period (10 days), as well as the higher confidence level (99%) and differences in population.

The following table presents the average, minimum, maximum and period-end VBM by risk type for the CIB and 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.

(in millions)	Three months ended June 30, 2014			At June 30, 2014
	Avg.	Min	Max	
CIB VBM by risk type				
Interest rate ^(a)	\$ 123	\$ 95	\$ 167	\$ 157
Credit spread ^(a)	119	46	140	72
Foreign exchange	39	26	64	27
Equities	58	36	92	51
Commodities and other	52	47	64	52
Diversification benefit	(233) ^(b)	NM ^(c)	NM ^(c)	(210) ^(b)
Total CIB VBM	158	132	180	149
Total Firm VBM	\$ 155	\$ 134	\$ 174	\$ 146

- (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 \$233 million, or 60% of the sum of the individual risk components for the three months ended June 30, 2014. The average Risk Management CIB trading and credit portfolio VaR diversification benefit was \$36 million, or 46% of the sum of the individual risk components, for the three months ended June 30, 2014.

- Refer to pages 69–71 of JPMorgan Chase’s 2Q14 Form 10-Q for more information on Value-at-risk.
- Refer to pages 142–148 of JPMorgan Chase’s 2013 Form 10-K for additional information on Risk Management VaR in the Market Risk Management section.

VBM back-testing

Back-testing is an approach to evaluating 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.

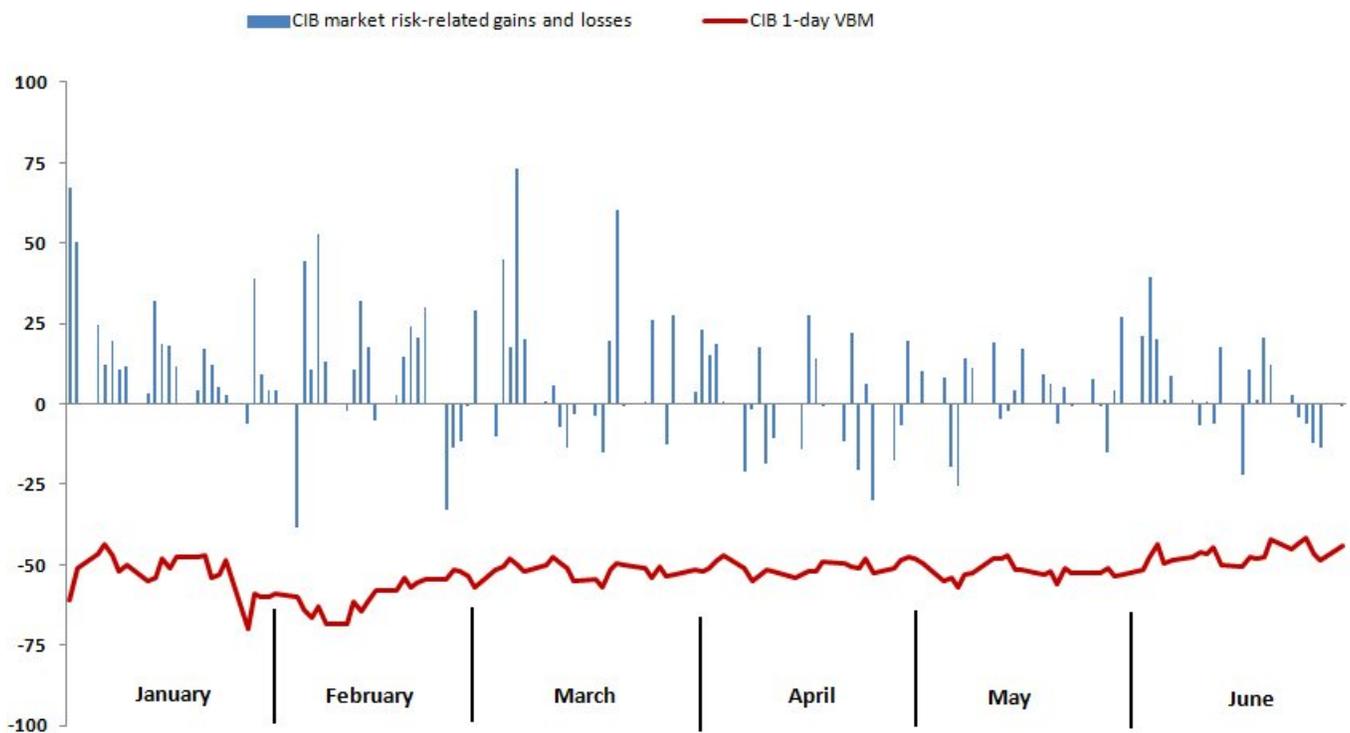
The following chart presents the VBM back-testing results for CIB's covered positions. The chart shows that for the six months ended June 30, 2014, the CIB observed no band breaks and posted market-risk related gains on 85 of the 127 trading days in this period. The CIB posted market-risk related gains on 38 days of the 64 trading days in the second quarter of 2014. The results in the table below are different from the results of VaR backtesting disclosed in the Firm's SEC filings due to the differences described in the Risk Management VaR Comparison to Regulatory VaR section on page 23 of this report.

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

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

Six months ended June 30, 2014

(\$millions)



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.

June 30, 2014 (in millions)	SVBM	Risk-based capital ^(a)	RWA
Firm modeled SVBM	\$ 465	1,395	\$ 17,435

(a) The modeled SVBM is subject to a regulatory multiplier that is set at a minimum of 3 (which is the multiplier used in this table) and can be increased up to 4, depending upon the number of VBM backtesting exceptions.

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

(in millions)	Three months ended June 30, 2014			At June 30, 2014
	Avg.	Min	Max	
Total CIB SVBM	\$ 473	\$ 397	\$ 539	\$ 446
Total Firm SVBM	\$ 465	\$ 402	\$ 522	\$ 438

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 is measured as a 99.9% quantile loss from the gain and loss distribution relative to the current value of the portfolio. 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.

June 30, 2014 (in millions)	IRC	RWA
Total CIB IRC	\$ 442	\$ 5,522

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

(in millions)	Three months ended June 30, 2014			At June 30, 2014
	Avg.	Min	Max	
CIB IRC on trading positions	\$ 428	\$ 322	\$ 779	\$ 442

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.

June 30, 2014 (in millions)	CRM ^(a)	RWA
Total CIB CRM	\$ 1,909	\$ 23,865

(a) Includes a CRM surcharge, which amounted to \$814 million on CIB trading positions.

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

(in millions)	Three months ended June 30, 2014			At June 30, 2014
	Avg.	Min	Max	
CRM model on CIB trading positions	\$ 1,054	\$ 892	\$ 1,233	\$ 1,135
CRM surcharge on CIB trading positions	836	752	\$ 904	774
Total CIB CRM	\$ 1,890	\$ 1,644	\$ 2,136	\$ 1,909

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.

June 30, 2014 (in millions)	Notional amount ^(a)	Fair value ^(b)
Positions modeled in CRM	\$ 5,947	\$ (647)
Positions not modeled in CRM	(273)	189
Total correlation trading positions	\$ 5,674	\$ (458)

(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.

June 30, 2014 (in millions)	Risk-based capital	RWA
Standard Specific Risk:		
Securitization positions	\$ 1,220	\$ 15,253
Nonsecuritization positions	6,677	83,459
Total Standard Specific Risk	\$ 7,897	\$ 98,712

Other charges

Certain positions, primarily those for which the Firm has not received supervisory approval to calculate regulatory capital using modeled-based VBM and SVBM, receive “other charges” as detailed in the table below.

June 30, 2014 (in millions)	Risk-based capital	RWA
Total Firm Other charges	\$ 2,078	\$ 25,973

Independent review of market risk regulatory capital models

The Firm’s Model Risk function within 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 153 of JPMorgan Chase’s 2013 Form 10-K.

Stress tests applied to covered positions subject to market risk

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

- Refer to pages 114-116 of JPMorgan Chase's 2013 Form 10-K for further information on Risk Governance.

While most of these 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. Furthermore, the Firm's stress testing framework is utilized in calculating results under scenarios mandated by the Federal Reserve's CCAR process and the Firm's ICAAP process.

OPERATIONAL RISK

Operational risk is the risk of loss resulting from inadequate or failed processes or systems, including human errors, or due to external events that are neither market- nor credit- related. Operational Risk is inherent in each of the Firm's businesses and Corporate functions, and it can manifest itself in various ways including errors, fraudulent acts, business interruptions, and inappropriate behavior of employees or vendors. These events could result in financial losses, including litigation and regulatory fines, as well as other damage to the Firm, including reputational harm. To monitor and control operational risk, the Firm maintains an overall framework that includes oversight and governance, risk self-assessment, capital measurement, and reporting and monitoring. Risk management is responsible for prescribing this framework for the lines of business and Corporate functions, whose activities give rise to operational risk, which is intended to enable the Firm to function with a sound and well-controlled operational environment.

- Refer to pages 155-157 of JPMorgan Chase's 2013 Form 10-K and page 73 of JPMorgan Chase's 2Q14 Form 10-Q for a discussion of JPMorgan Chase's Operational Risk Management.

Operational Risk Capital Measurement

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 operating risk capital estimate is the result of a statistical model, the Loss Data Approach ("LDA"), which simulates the frequency and severity of future operational risk losses based on historical data.

The LDA model is used to estimate an aggregate operational loss distribution over a one-year time horizon, at a 99.9% confidence level, based on historical internal and external operational loss data in a manner that aligns with the Firm's LOB structure and the "Basel Event Type" risk categorization. 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 irrespective of whether the issues or business activity 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 74-78 of JPMorgan Chase's 2Q14 Form 10Q for information related to operational risk RWA.

Operational risk RWA rollforward

The following table presents the changes in operational risk RWA under Basel III Advanced Transitional for the three months ended June 30, 2014. The amounts in the rollforward categories are estimates, based on the predominant driver of the change.

Three months ended June 30, 2014 (in billions)	Basel III Advanced Transitional RWA
April 1, 2014	\$ 375
Model & data changes ^(a)	25
June 30, 2014	\$ 400

- (a) Model & data changes refer to movements in 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 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 ALCO.

The Firm manages interest rate exposure related to its assets and liabilities on a consolidated, corporate-wide basis 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. The Firm's earnings-at-risk scenarios are continuously evaluated and enhanced in response to changes in the composition of the Firm's balance sheet, changes in market conditions, improvements in the Firm's simulation and other factors.

- Refer to pages 147-148 of JPMorgan Chase's 2013 Form 10-K for a detailed discussion of Earnings-at-risk;
- Refer to page 71 of JPMorgan Chase's 2Q14 Form 10-Q for further 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
June 30, 2014	\$ 4,635	\$ 2,798	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 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 \$530 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 CIB and other lines of business and corporate functions.

The valuation control function verifies fair value estimates 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 estimates that cannot be verified to external independent data, 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 197–200 of JPMorgan Chase’s 2013 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 when the Firm may not be able to observe a recent market price for a financial instrument that trades in an inactive (or less active) market. The Firm estimates the amount of uncertainty in the initial fair value estimate based on the degree of liquidity in the market. Factors that may be considered in determining the liquidity adjustment include: (1) the amount of time since the last relevant pricing point; (2) whether there was an actual trade or relevant external quotes or alternatively pricing points for similar instruments in active markets; and (3) the volatility of the principal risk component of the financial instrument.

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 internally developed models that incorporate unobservable parameters – that is, parameters that must be estimated and are, therefore, subject to management judgment. Unobservable parameter valuation adjustments are applied to reflect the uncertainty inherent in the valuation estimate provided by the model.

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

- Refer to Note 3 on page 212 of JPMorgan Chase’s 2013 Form 10-K, and page 107 of JPMorgan Chase’s 2Q14 Form 10-Q, for information on credit and funding 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 Firm's Model Risk function within MRaD reviews and approves valuation models used by the Firm. Model reviews consider a number of factors about the model's suitability for valuation of a particular product including whether it accurately reflects the characteristics and significant risks of a particular instrument; the selection and reliability of model inputs; consistency with models for similar products; the appropriateness of any model-related adjustments; and sensitivity to input parameters and assumptions that cannot be observed from the market. When reviewing a model, the Model Risk function analyzes and challenges the model methodology and the reasonableness of model assumptions and may perform or require additional testing, including back-testing of model outcomes.

New significant valuation models, as well as material changes to existing 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

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 which 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. 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 function is part of the Firm's Model Risk and Development unit, which in turn reports to the Chief Risk Officer. 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.

References to JPMorgan Chase's 2013 Form 10-K

JPMorgan Chase's 2013 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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