

JPMORGAN CHASE & Co.
PILLAR 3 REGULATORY CAPITAL DISCLOSURES

For the quarterly period ended June 30, 2017

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DISCLOSURE MAP

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INTRODUCTION

JPMorgan Chase & Co., (“JPMorgan Chase” or the “Firm”) a financial holding company incorporated under Delaware law in 1968, is a leading global financial services firm and one of the largest banking institutions in the United States of America (“U.S.”), with operations worldwide; the Firm had \$2.6 trillion in assets and \$258.5 billion in stockholders’ equity as of June 30, 2017. The Firm is a leader in investment banking, financial services for consumers and small businesses, commercial banking, financial transaction processing and asset management. Under the J.P. Morgan and Chase brands, the Firm serves millions of customers in the U.S. and many of the world’s most prominent corporate, institutional and government clients.

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

Pillar 3 report overview

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

This report should be read in conjunction with JPMorgan Chase’s Pillar 3 Regulatory Capital Disclosures Report for the quarterly period ended December 31, 2016 (“4Q16 Pillar 3 Report”), as well as the Annual Report on Form 10-K for the year ended December 31, 2016 (“2016 Form 10-K”) and the Quarterly Report on Form 10-Q for the period ended June 30, 2017 (“2Q17 Form 10-Q”), which have been filed with the U.S. Securities and Exchange Commission (“SEC”).

Basel III overview

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

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

Capital rules under Basel III establish minimum capital ratios and overall capital adequacy standards for large and internationally active U.S. bank holding companies and banks, including the Firm and its insured depository institution (“IDI”) subsidiaries. Basel III sets forth two comprehensive approaches for calculating RWA: a standardized approach (“Basel III Standardized”), and an advanced approach (“Basel III Advanced”). Certain of the requirements of Basel III are subject to phase-in periods that began on January 1, 2014 and continue through the end of 2018 (“transitional period”).

Basel III also includes a requirement for Advanced Approach banking organizations, including the Firm, to calculate a supplementary leverage ratio (“SLR”).

ENTERPRISE-WIDE RISK MANAGEMENT

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

Firmwide Risk Management is overseen and managed on an enterprise-wide basis. The Firm believes that effective risk management requires:

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

The Firm's Operating Committee, which consists of the Firm's Chief Executive Officer ("CEO"), Chief Risk Officer ("CRO"), Chief Financial Officer ("CFO") and other senior executives, is the ultimate management escalation point in the Firm and may refer matters to the Firm's Board of Directors. The Operating Committee is responsible and accountable to the Firm's Board of Directors.

In June 2017, the Firm announced the departure of its Chief Operating Officer. As a result, his responsibilities have transitioned to other members of the Operating Committee. The Chief Investment Officer/Treasurer now reports to the Firm's CFO, and will continue to chair the Firmwide Asset Liability Committee ("ALCO").

- Refer to page 75 of the 2016 Form 10-K for further discussion on the Firm's ALCO.

The Firm strives for continual improvement through efforts to enhance controls, ongoing employee training and development, talent retention, and other measures. The Firm follows a disciplined and balanced compensation framework with strong internal governance and independent Board oversight. The impact of risk and control issues are carefully considered in the Firm's performance evaluation and incentive compensation processes.

Governance and oversight

- Refer to pages 71-75 of the 2016 Form 10-K for information on Risk Governance and oversight.

REGULATORY CAPITAL

There are three categories of risk-based capital under the Basel III Transitional rules: common equity Tier 1 ("CET1") capital, Tier 1 capital and Tier 2 capital. 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 benefits ("OPEB") plans), less certain deductions for goodwill, mortgage servicing rights ("MSRs") and deferred tax assets that arise from net operating loss ("NOL") and tax credit carryforwards. Tier 1 capital predominantly consists of CET1 capital as well as perpetual preferred stock. Tier 2 capital includes long-term debt qualifying as Tier 2 and qualifying allowance for credit losses. Total capital is Tier 1 capital plus Tier 2 capital.

Components of capital

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

- Refer to the Consolidated balance sheets on page 85 of the 2Q17 Form 10-Q for the components of total stockholders' equity.

June 30, 2017 (in millions)	Basel III Advanced Transitional
Total stockholders' equity	\$ 258,483
Less: Preferred stock	26,068
Common stockholders' equity	232,415
Less: AOCI adjustment	(318)
CET1 capital before regulatory adjustments	232,733
Less:	
Goodwill	47,300
Other intangible assets	662
Other CET1 capital adjustments ^(a)	1,067
Add:	
Deferred tax liabilities ^(b)	3,238
CET1 capital	186,942
Preferred stock	26,068
Other Tier 1 capital adjustments	68
Less: Tier 1 capital deductions ^(a)	725
Total Tier 1 capital	212,353
Long-term debt and other instruments qualifying as Tier 2 capital	15,162
Qualifying allowance for credit losses	4,764
Other Tier 2 capital adjustments	1,174
Less: Tier 2 capital deductions	108
Total Tier 2 capital	20,992
Total capital	\$ 233,345

(a) Includes debit valuation adjustments ("DVA") recorded in other comprehensive income ("OCI").

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

Terms of capital instruments

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

- Refer to Note 22 on page 247, and Note 23 on pages 247-248, respectively, of the 2016 Form 10-K for additional information on preferred stock and common stock.
- Refer to Note 21 on page 245 of the 2016 Form 10-K for information on trust preferred securities.
- Refer to the Supervision and Regulation section in Part 1, Item 1 on pages 1-2 of the 2016 Form 10-K.

Restrictions on capital and transfer of funds

There are regulations governing the amount of dividends the Firm's banking subsidiaries could pay without the prior approval of their relevant banking regulators.

- Refer to Note 27 on page 253 of the 2016 Form 10-K for information on restrictions on cash and intercompany funds transfers.

Capital management

For additional information on regulatory capital, capital actions, and the regulatory capital outlook, refer to the Capital Risk Management section on pages 42-48 and Note 18 on pages 151-152 of the 2Q17 Form 10-Q. The Capital Risk Management section of the Form 10-Q reflects regulatory capital, RWA, and capital ratios calculated under both the Basel III Advanced and Standardized Fully Phased-In and Transitional rules, whereas the related capital metrics presented in this report are calculated under Basel III Advanced Transitional rules, except where explicitly noted. As a result, there are differences in the amounts presented between the two reports.

Risk-weighted assets

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

Covered position definition

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

- For information on the definition of a covered position, refer to Regulatory Capital on page 6 of the 4Q16 Pillar 3 Report.

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 are assigned 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, 2017.

June 30, 2017 (in millions)	Basel III Advanced Transitional RWA
Credit risk	\$ 922,211
Market risk	136,985
Operational risk	400,000
Total RWA	\$ 1,459,196

- For information on the components of risk-weighted assets, refer to Regulatory Capital on page 6 of the 4Q16 Pillar 3 Report.

RWA rollforward

The following table presents changes in the components of RWA under Basel III Advanced Transitional for the three months ended June 30, 2017. The amounts in the rollforward categories are estimates, based on the predominant driver of the change.

Three months ended June 30, 2017 (in millions)	Basel III Advanced Transitional RWA			
	Credit risk	Market risk	Operational risk	Total
March 31, 2017	\$930,316	\$137,676	\$ 400,000	\$1,467,992
Model & data changes ^(a)	(3,120)	(261)	—	(3,381)
Portfolio runoff ^(b)	(6,400)	—	—	(6,400)
Movement in portfolio levels ^(c)	1,415	(430)	—	985
Changes in RWA	(8,105)	(691)	—	(8,796)
June 30, 2017	\$922,211	\$136,985	\$ 400,000	\$1,459,196

- (a) Model & data changes refer to movements in levels of RWA as a result of revised methodologies and/or treatment per regulatory guidance (exclusive of rule changes).
- (b) Portfolio runoff for credit risk RWA primarily reflects (under both the Standardized and Advanced approaches) reduced risk from position rollofs in legacy portfolios in Mortgage Banking and the sale of substantially all of the student loan portfolio.
- (c) Movement in portfolio levels for credit risk RWA refers to changes in book size, composition, credit quality, and market movements; and for market risk RWA refers to changes in position and market movements.

Capital requirements

A strong capital position is essential to the Firm's business strategy and competitive position. Maintaining a strong balance sheet to manage through economic volatility is considered a strategic imperative of the Firm's Board of Directors, CEO and Operating Committee. The Firm's balance sheet philosophy focuses on risk-adjusted returns, strong capital and robust liquidity. The Firm's capital risk management strategy focuses on maintaining long-term stability to enable it to build and invest in market-leading businesses, even in a highly stressed environment.

- Refer to the Capital Risk Management section on pages 42-48 of the 2Q17 Form 10-Q and pages 76-85 of the 2016 Form 10-K for information on the Firm's strategy and governance.

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

Under the risk-based capital ("RBC") guidelines of the Federal Reserve, JPMorgan Chase is required to maintain minimum ratios of CET1, Tier 1 and Total capital to RWA, as well as a minimum leverage ratio (which is 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. National bank subsidiaries also are subject to these capital requirements by their respective primary regulators.

The following table presents the minimum ratios to which the Firm and its national bank subsidiaries are subject as of June 30, 2017.

	Minimum capital ratios		Well-capitalized ratios	
	BHC ^(a)	IDI ^(b)	BHC ^(c)	IDI ^(d)
Capital ratios				
CET1	7.50%	5.75%	—%	6.5%
Tier 1	9.00	7.25	6.0	8.0
Total	11.00	9.25	10.0	10.0
Tier 1 leverage	4.0	4.0	—	5.0

Note: The table above is as defined by the regulations issued by the Federal Reserve, OCC and FDIC and to which the Firm and its national bank subsidiaries are subject.

- (a) Represents the Transitional minimum capital ratios applicable to the Firm under Basel III at June 30, 2017. At June 30, 2017, the CET1 minimum capital ratio includes 1.25% resulting from the phase in of the Firm's 2.5% capital conservation buffer and 1.75%, resulting from the phase in of the Firm's 3.5% GSIB surcharge.
- (b) Represents requirements for JPMorgan Chase's banking subsidiaries. The CET1 minimum capital ratio includes 1.25% resulting from the phase in of the 2.5% capital conservation buffer that is applicable to the banking subsidiaries. The banking subsidiaries are not subject to the GSIB surcharge.
- (c) Represents requirements for bank holding companies pursuant to regulations issued by the Federal Reserve.
- (d) Represents requirements for bank subsidiaries pursuant to regulations issued under the FDIC Improvement Act.

Capital adequacy

As of June 30, 2017, JPMorgan Chase and all of its U.S. banking subsidiaries were well-capitalized and met all capital requirements to which each was subject. Capital ratios for the Firm's significant national bank subsidiaries are presented below.

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

The capital adequacy of the Firm and its national bank subsidiaries, both during the transitional period and upon full phase-in, is evaluated against the lower of the two ratios as calculated under the Basel III approaches (Standardized or Advanced) as required by the Collins Amendment of the Wall Street Reform and Consumer Protection Act ("Dodd-Frank Act"). At June 30, 2017, the Firm's Basel III Standardized Fully Phased-In CET1 ratio became the current binding constraint. The Firm anticipates that the Basel III Standardized Fully Phased-In CET1 ratio will remain its binding constraint.

- For information on the Firm's Internal Capital Adequacy Assessment Process ("ICAAP") and Comprehensive Capital Analysis and Review ("CCAR") processes, refer to Regulatory Capital on page 5 of the 4Q16 Pillar 3 Report and page 47 of the 2Q17 Form 10-Q.

Regulatory capital metrics for JPMorgan Chase and its significant national bank subsidiaries

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

June 30, 2017 (in millions, except ratios)	JPMorgan Chase & Co.	
	Basel III Standardized Transitional	Basel III Advanced Transitional
Regulatory capital		
CET1 capital	\$ 186,942	\$ 186,942
Tier 1 capital	212,353	212,353
Total capital ^(a)	243,061	233,345
Assets		
Risk-weighted	\$ 1,478,816	\$ 1,459,196
Adjusted average ^(b)	2,512,120	2,512,120
Capital ratios^(c)		
CET1 ^(d)	12.6%	12.8%
Tier 1	14.4	14.6
Total	16.4	16.0
Tier 1 leverage ^(e)	8.5	8.5

June 30, 2017 (in millions, except ratios)	JPMorgan Chase Bank, N.A.	
	Basel III Standardized Transitional	Basel III Advanced Transitional
Regulatory capital		
CET1 capital	\$ 184,141	\$ 184,141
Tier 1 capital	184,141	184,141
Total capital	195,851	189,381
Assets		
Risk-weighted	\$ 1,304,939	\$ 1,245,670
Adjusted average ^(b)	2,107,302	2,107,302
Capital ratios^(c)		
CET1 ^(d)	14.1%	14.8%
Tier 1	14.1	14.8
Total	15.0	15.2
Tier 1 leverage ^(e)	8.7	8.7

June 30, 2017 (in millions, except ratios)	Chase Bank USA, N.A.	
	Basel III Standardized Transitional	Basel III Advanced Transitional
Regulatory capital		
CET1 capital	\$ 19,647	\$ 19,647
Tier 1 capital	19,647	19,647
Total capital	25,684	24,297
Assets		
Risk-weighted	\$ 109,002	\$ 194,110
Adjusted average ^(b)	122,880	122,880
Capital ratios^(c)		
CET1 ^(d)	18.0%	10.1%
Tier 1	18.0	10.1
Total	23.6	12.5
Tier 1 leverage ^(e)	16.0	16.0

- (a) Total capital for JPMorgan Chase & Co. includes \$544 million of surplus capital in insurance subsidiaries
- (b) Adjusted average assets, for purposes of calculating the Tier 1 leverage ratio, includes total quarterly average assets adjusted for unrealized gains/(losses) on AFS securities, less deductions for goodwill and other intangible assets, defined benefit pension plan assets, and deferred tax assets related to NOL and tax credit carryforwards.
- (c) For each of the risk-based capital ratios, the capital adequacy of the Firm and its national bank subsidiaries is evaluated against the lower of the two ratios as calculated under Basel III approaches (Standardized or Advanced) as required by the Collins Amendment of the Dodd-Frank Act (the "Collins Floor").
- (d) At June 30, 2017, the Firm and its U.S. subsidiary banks are required to maintain a capital conservation buffer in addition to the 4.5% minimum CET1 requirement, or be subject to limitations on the amount of capital that may be distributed, including dividends and common equity repurchases. The capital conservation buffer is calculated as the lowest of the: (i) CET1 ratio less the CET1 minimum requirement, (ii) Tier 1 ratio less the Tier 1 minimum requirement and (iii) Total capital ratio less the Total capital minimum requirement. At June 30, 2017, the calculated capital conservation buffer of the Firm, JPMorgan Chase Bank, N.A. and Chase Bank USA, N.A. was 8.0%, 7.0% and 4.1%, respectively. This was in excess of the estimated required capital conservation buffer of 3.00% (inclusive of the GSIB surcharge) for the Firm and 1.25% for JPMorgan Chase Bank, N.A. and Chase Bank USA, N.A. at that date. In addition, the buffer retained earnings of the Firm, JPMorgan Chase Bank, N.A. and Chase Bank USA, N.A. was \$6.1 billion, \$9.7 billion and \$1.3 billion respectively.
- (e) The Tier 1 leverage ratio is not a risk-based measure of capital. This ratio is calculated by dividing Tier 1 capital by adjusted average assets.

Supplementary leverage ratio ("SLR")

The following table presents the components of the Firm's Advanced Transitional SLR as of June 30, 2017.

(in millions, except ratio)		June 30, 2017
Basel III Advanced Transitional Tier 1 Capital	\$	212,353
Total assets		2,563,174
Less: Adjustments for frequency of calculations ^(a)		3,552
Total average assets^(b)		2,559,622
Less: Adjustments for deductions from tier 1 capital		47,117
Total adjusted average assets^(c)		2,512,505
Off-balance sheet exposures ^(d)		680,567
Total leverage exposure		\$ 3,193,072
Basel III Advanced Transitional SLR		6.7%

- (a) The adjustment for frequency of calculations represents the difference between total assets at June 30, 2017, and total average assets for the quarter ended June 30, 2017, excluding the adjustments for frequency of calculations for derivatives and repo-style transactions of \$465 million and \$(79) million, respectively.
- (b) To reconcile to total average assets as reported in the 2Q17 Form 10-Q, the total average assets reported in this table must be reduced by the aforementioned adjustment for frequency of calculations for derivative and repo-style transactions.
- (c) Adjusted average assets, for purposes of calculating the SLR, includes total quarterly average assets adjusted for on-balance sheet assets that are subject to deduction from Tier 1 capital, predominantly goodwill and other intangible assets.
- (d) Off-balance sheet exposures are calculated as the average of the three month-end spot balances during the quarter.

Additional information on the components of the leverage exposure is provided in the SLR section of this report.

CREDIT RISK

Credit risk is the risk of loss arising from the default of a customer, client or counterparty. The Firm provides credit to a variety of customers, ranging from large corporate and institutional clients to individual consumers and small businesses. The consumer credit portfolio refers to exposures held by Consumer & Community Banking (“CCB”) as well as prime mortgage loans held in the Asset & Wealth Management (“AWM”) and the Corporate segments. The consumer portfolio consists primarily of residential real estate loans, credit card loans, auto loans, and business banking loans, and associated lending-related commitments. The wholesale credit portfolio refers primarily to exposures held by Corporate & Investment Bank (“CIB”), Commercial Banking (“CB”), Asset & Wealth Management, and Corporate. In addition to providing credit to clients, the Firm engages in client-related activities that give rise to counterparty credit risk such as securities financing, margin lending, and market-making activities in derivatives. Finally, 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 and cash due from banks, are classified as wholesale exposures for RWA reporting.

In addition to counterparty default risk, Basel III includes a capital charge for credit valuation adjustments (“CVA”) which reflects counterparty credit risk in the valuation of OTC derivatives. The firm calculates CVA RWA using the Simple CVA approach, which uses risk weights based on internal PD ratings and a combination of the current exposure method (“CEM”) and the internal model method (“IMM”) EADs.

- For information on IMM and CEM EAD methodologies, refer to Credit Risk on page 10 of the 4Q16 Pillar 3 Report.

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

- Refer to Credit Risk Management on pages 86–107 of the 2016 Form 10-K and page 49 of the 2Q17 Form 10-Q.
- Refer to the Notes to the Consolidated Financial Statements beginning on page 146 of the 2016 Form 10-K. Specific page references are contained in the Appendix of this report.

Summary of credit risk RWA

Credit risk RWA includes retail, wholesale, and counterparty credit exposures described in this section, as well as securitization and equity exposures in the banking book. Other exposures such as non-material portfolios, unsettled transactions, and other assets that are not classified elsewhere are also included. The following table presents the Firm’s total credit risk RWA at June 30, 2017.

June 30, 2017 (in millions)	Basel III Advanced Transitional RWA
Retail exposures	\$ 234,965
Wholesale exposures	426,458
Counterparty exposures	91,448
Securitization exposures ^(a)	29,094
Equity exposures	35,104
Other exposures ^(b)	59,632
CVA	45,510
Total credit risk RWA	\$ 922,211

(a) Represents banking book securitization RWA only.

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

Credit risk exposures

Credit risk exposures as reported under U.S. GAAP as of and for the three months ended June 30, 2017 are contained in the 2Q17 Form 10-Q. Specific references to the 2Q17 Form 10-Q are listed below.

Traditional credit products

- Refer to Credit Risk Management beginning on page 49 for credit-related information on the consumer and wholesale portfolios.
- Refer to Note 11 on pages 124-137 for the distribution of loans by geographic region and industry.
- Refer to Note 19 on pages 153-156 for the contractual amount and geographic distribution of lending-related commitments.

Counterparty credit risk

- Refer to the Consumer Credit Portfolio section on pages 50-55, and to the Wholesale Credit Portfolio section on pages 56-62 for margin loans balances.
- Refer to Wholesale Credit Portfolio footnote (d) on page 59, Country Risk on page 66.
- Refer to Note 4 on pages 104-113 for the gross positive fair value, netting benefits, and net exposure of derivative receivables.
- Refer to Derivative contracts on pages 61-62 for credit derivatives used in credit portfolio management activities.
- Refer to Note 10 on pages 122-123 for information on gross and net securities purchased under resale agreements and securities borrowed transactions, and for information regarding the credit risk inherent in the securities financing portfolio.

Investment securities

- Refer to Note 9 on pages 118-122 for the investment securities portfolio by issuer type.

Country risk

- Refer to page 66 for the top 20 country exposures.

Allowance for credit losses

- Refer to Allowance for Credit Losses on pages 63-65 for a summary of changes in the allowance for loan losses and allowance for lending-related commitments.
- Refer to Note 12 on page 138 for the allowance for credit losses and loans and lending-related commitments by impairment methodology.

Average balances

- Refer to page 166 for the Consolidated average balance sheet.

Credit risk concentrations

- For further information on credit risk concentrations, refer to Credit risk monitoring on page 11 in the 4Q16 Pillar 3 Report.

RETAIL CREDIT RISK

The retail portfolio is comprised of exposures that are scored and managed on a pool basis rather than on an individual-exposure basis. For the retail portfolio, credit loss estimates are based on statistical analysis of credit losses over discrete periods of time. The statistical analysis uses portfolio modeling, credit scoring, and decision-support tools, which consider loan-level factors such as delinquency status, credit scores, collateral values, and other risk factors.

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 (mainly in the Consumer & Community Banking business segment), 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 the Basel III capital rules.

The retail capital population excludes certain risk-rated business banking and auto dealer loans that are included in the consumer portfolio in the Firm's SEC disclosures; these are subject to wholesale capital treatment as required by the Basel III capital rules.

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 Basel III capital rules. 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.

- For information on risk parameter estimation methods for the retail credit portfolio, refer to Retail Credit Risk on pages 12-13 of the 4Q16 Pillar 3 Report.

June 30, 2017 (in millions)	Basel III Advanced Transitional RWA
Residential mortgages	\$ 112,296
Qualifying revolving	99,062
Other retail	23,607
Total retail credit RWA	\$ 234,965

Residential mortgage exposures

The following table includes first lien and junior lien mortgages and revolving home equity lines of credit. First lien mortgages were 83% of the exposure amount, revolving exposures were 15%, and the remaining exposures related to junior lien mortgages. Most revolving exposures were originated prior to 2010 and drive approximately 34% of the total risk weighted assets of this portfolio, with nearly 32% of the exposures in the equal to or greater than 0.75% PD ranges. Recent originations are primarily first lien mortgages and are predominantly reflected in the less than 0.75% PD ranges.

June 30, 2017
(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	\$ 19,497	\$ 22,352	\$ 24,301	\$ 2,120	0.04%	57.80%	8.72%
0.10 to < 0.20	188,965	15,025	202,229	27,483	0.15	39.23	13.59
0.20 to < 0.75	38,802	16,279	43,667	17,585	0.48	52.17	40.27
0.75 to < 5.50	26,520	4,709	30,792	34,433	1.86	58.41	111.82
5.50 to < 10.00	2,772	11	2,778	6,889	6.84	60.93	247.98
10.00 to < 100	3,352	8	3,352	9,581	26.95	54.51	285.84
100 (default)	15,588	605	16,000	14,205	100.00	— ^(a)	88.78 ^(b)
Total	\$ 295,496	\$ 58,989	\$ 323,119	\$ 112,296	5.64%	42.64%	34.75%

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

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

Qualifying revolving exposures

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

June 30, 2017
(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	\$ 49,256	\$ 505,714	\$ 210,023	\$ 11,660	0.10%	92.29%	5.55%
0.50 to < 2.00	36,852	46,121	45,155	17,800	1.09	92.38	39.42
2.00 to < 3.50	15,223	8,402	16,274	12,432	2.61	92.60	76.39
3.50 to < 5.00	14,025	2,127	14,151	13,892	3.75	92.05	98.17
5.00 to < 8.00	6,725	1,616	6,778	9,820	6.75	92.87	144.86
8.00 to < 100	17,709	1,299	17,753	33,458	19.36	92.27	188.47
100 (default) ^(a)	—	—	—	—	—	—	—
Total	\$ 139,790	\$ 565,279	\$ 310,134	\$ 99,062	1.79%	92.32%	31.94%

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

Other retail exposures

The following table includes other retail exposures to individuals that are not classified as residential mortgage or qualifying revolving exposures (i.e., includes auto loans, student loans, credit card accounts above \$100,000, business card exposures without a personal guarantee, scored business banking loans, and certain wholesale loans under \$1 million).

June 30, 2017
(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	\$ 37,138	\$ 8,249	\$ 40,419	\$ 5,758	0.18%	37.23%	14.25%
0.50 to < 2.00	15,166	2,848	15,959	7,785	0.94	48.21	48.78
2.00 to < 3.50	3,775	524	3,929	3,178	2.56	56.51	80.88
3.50 to < 5.00	1,645	129	1,680	1,355	4.21	52.41	80.64
5.00 to < 8.00	1,151	59	1,170	1,170	5.95	62.70	100.02
8.00 to < 100	2,921	24	2,930	3,408	21.57	55.45	116.31
100 (default)	915	—	915	953	100.00	— ^(a)	104.15
Total	\$ 62,711	\$ 11,833	\$ 67,002	\$ 23,607	3.00%	42.09%	35.23%

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

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 & Wealth Management business segments, and in Corporate but also include certain business banking and auto dealer loans held in the Consumer & Community Banking business segment that are risk-rated because they have characteristics similar to commercial loans. For the risk-rated portfolio, credit loss estimates are based on estimates of the probability of default and loss severity given a default. The estimation process begins when risk-ratings are assigned to each obligor and credit facility to differentiate risk within the portfolio. These risk ratings are reviewed regularly by Credit Risk management and revised as needed to reflect the borrower's current financial position, risk profile and related collateral.

The population of risk-rated loans and lending-related commitments receiving wholesale treatment for regulatory capital purposes largely overlaps with the wholesale credit portfolio reflected in the Firm's SEC disclosures. In accordance with the Basel III capital rules, 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 in the banking book;
- Certain exposures recorded as trading assets that do not meet the definition of a covered position; and
- Repurchase and reverse repurchase transactions as well as securities borrowing and lending transactions that do not meet the Basel III regulatory definition of repo-style transactions

Wholesale exposures

The following table presents exposures to wholesale clients and issuers by PD range. Exposures are comprised primarily of traditional credit products (i.e., loans and lending-related commitments), investment securities, and cash placed with various central banks, predominantly Federal Reserve Banks. Total EAD is \$1.4 trillion, with 77% of this exposure in the first two PD ranges, which are predominantly investment-grade. Exposures meeting the Basel definition of default represent 0.2% of total EAD. The exposure-weighted average LGD for the wholesale portfolio is 30%.

June 30, 2017 (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	\$ 744,417	\$ 167,621	\$ 872,733	\$ 114,710	0.04%	28.46%	13.14%
0.15 to < 0.50	128,373	123,659	201,898	93,514	0.26	36.57	46.32
0.50 to < 1.35	174,162	90,683	225,243	122,084	0.75	28.96	54.20
1.35 to < 10.00	51,811	52,639	81,166	77,978	3.80	32.37	96.07
10.00 to < 100	5,906	6,650	8,972	14,680	22.82	35.78	163.62
100 (default)	2,535	1,401	3,318	3,492	100.00	36.57	105.23
Total	\$ 1,107,204	\$ 442,653	\$ 1,393,330	\$ 426,458	0.79%	30.01%	30.61%

Credit risk mitigation

The risk mitigating benefit of eligible guarantees and credit derivative hedges are reflected in the RWA calculation as permitted by the Basel III capital rules. At June 30, 2017, \$82.4 billion of EAD for wholesale exposures is covered by eligible guarantees or credit derivatives.

Certain off-balance sheet items, such as standby letters of credit and letters of credit, are reported net of risk participations for U.S. GAAP reporting, but are included gross of risk participations for regulatory reporting.

Risk-weighted assets

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

- For information on risk parameter estimation methods for the wholesale credit portfolio, refer to Wholesale Credit Risk on page 15 of the 4Q16 Pillar 3 Report.

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, 2017 (in millions)	Basel III Advanced Transitional RWA
Corporate	\$ 347,645
Bank	15,044
Sovereign	16,498
Income-producing real estate	44,731
High volatility commercial real estate	2,540
Total wholesale credit RWA	\$ 426,458

COUNTERPARTY CREDIT RISK

Counterparty credit risk exposures consist of OTC derivatives, repo-style transactions, margin loans, and cleared transactions.

Risk-weighted assets

To calculate counterparty credit risk RWA, the Firm inputs its risk parameter estimates (PD, LGD, and EAD) into the same IRB risk weight formula as wholesale exposures. The IRB risk weight formula generates an estimate of unexpected losses at a 99.9% confidence level.

Unexpected losses are converted to an RWA measure by application of a 12.5 supervisory multiplier. RWA for exposures where the counterparty is a CCP depends on whether the CCP meets the criteria for classification as a qualifying CCP.

The following table presents risk-weighted assets by transaction type.

- For information on the risk parameter estimation methods and wrong-way risk for counterparty credit risk, refer to Counterparty Credit Risk on pages 17–18 of the 4Q16 Pillar 3 Report.

June 30, 2017 (in millions)	Basel III Advanced Transitional RWA
OTC derivatives	\$ 58,368
Repo-style transactions	23,804
Margin loans	2,593
Cleared transactions	6,683
Total counterparty credit RWA	\$ 91,448

Counterparty credit exposures

The following table presents counterparty credit risk exposures for OTC derivatives and repo-style transactions by PD range. The table does not include margin loans or cleared transactions. Total EAD is \$207.6 billion, with 84% of this exposure in the first two PD ranges, which are predominantly investment-grade. Exposures meeting the Basel definition of default represent 0.2% of total EAD. The exposure-weighted average LGD for this portfolio is 43%. The collateral benefit is reflected in the EAD.

June 30, 2017
(in millions, except ratios)

PD range (%)	EAD	RWA	Exposure-weighted average		
			PD	LGD	Risk weight
0.00 to < 0.15	\$ 137,265	\$ 33,500	0.09%	42.66%	24.41%
0.15 to < 0.50	37,088	20,244	0.24	45.67	54.58
0.50 to < 1.35	23,415	16,641	0.74	44.22	71.07
1.35 to < 10.00	9,104	10,484	3.51	41.83	115.16
10.00 to < 100	348	931	22.70	47.71	267.44
100 (default)	351	372	100.00	41.65	106.00
Total	\$ 207,571	\$ 82,172	0.55%	43.35%	39.59%

Credit risk mitigation

The risk mitigating benefit of eligible guarantees and credit derivative hedges are reflected in the RWA calculation as permitted by the Basel III capital rules. At June 30, 2017, \$6.1 billion of EAD for OTC derivatives is covered by eligible guarantees.

SECURITIZATION

Securitizations are transactions 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.

Securitizations 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.

Securitizations 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 transaction in which one or more of the underlying exposures that have been securitized is itself a securitization.

On-balance sheet exposures include securities, loans, as well as servicing advances related to private-label mortgage backed securitizations for which the Firm acts as servicer. Off-balance sheet exposures include liquidity commitments, certain recourse obligations, and derivatives for which the counterparty risk or the reference obligation is a securitization exposure.

The Firm plays a variety of roles in asset securitizations such as investor or originator in traditional and synthetic securitization transactions and servicer/collateral manager of assets transferred into traditional securitizations. The Firm also provides liquidity facilities to securitization entities.

This section includes both banking book and trading book securitizations, with the exception of modeled correlation trading positions which are included in the Market Risk section.

- For information on risk management and due diligence for securitization exposures, refer to Securitization on page 19 of the 4Q16 Pillar 3 Report.

Hierarchy of approaches

- For information on Hierarchy of approaches for securitization exposures, refer to Securitization on page 20 of the 4Q16 Pillar 3 Report.

Risk-weighted assets

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.

June 30, 2017 (in millions)	Securitization							
	SFA		SSFA		1250%		Total	
	Exposure	RWA	Exposure	RWA	Exposure	RWA	Exposure	RWA
Risk weight								
= 0% ≤ 20%	\$ 51,397	\$ 10,909	\$ 66,417	\$ 14,016	\$ —	\$ —	\$ 117,814	\$ 24,925
> 20% ≤ 50%	1,816	505	2,208	700	—	—	4,024	1,205
> 50% ≤ 100%	21	14	366	281	—	—	387	295
> 100% < 1250%	32	198	395	1,243	—	—	427	1,441
= 1250%	21	268	18	223	238	3,151	277	3,642
Securitization, excluding re-securitization	\$ 53,287	\$ 11,894	\$ 69,404	\$ 16,463	\$ 238	\$ 3,151	\$ 122,929	\$ 31,508

June 30, 2017 (in millions)	Re-securitization							
	SFA		SSFA		1250%		Total	
	Exposure	RWA	Exposure	RWA	Exposure	RWA	Exposure	RWA
Risk weight								
= 0% ≤ 20%	\$ 1,139	\$ 240	\$ 48	\$ 10	\$ —	\$ —	\$ 1,187	\$ 250
> 20% ≤ 50%	3	1	2	1	—	—	5	2
> 50% ≤ 100%	4	4	4	3	—	—	8	7
> 100% < 1250%	3	16	3	5	—	—	6	21
= 1250%	—	—	1	11	16	196	17	207
Re-securitization^(a)	\$ 1,149	\$ 261	\$ 58	\$ 30	\$ 16	\$ 196	\$ 1,223	\$ 487
Total securitization^(b)	\$ 54,436	\$ 12,155	\$ 69,462	\$ 16,493	\$ 254	\$ 3,347	\$ 124,152	\$ 31,995

(a) As of June 30, 2017, there were no re-securitizations to which credit risk mitigation has been applied.

(b) Total securitization RWA includes \$2.9 billion of RWA on trading book exposure of \$5.2 billion. The trading book RWA represents non-modeled securitization charges in the Market Risk section of this report.

Any gain-on-sale in connection with a securitization exposure must be deducted from CET1 capital. The amount deducted as of June 30, 2017 was immaterial.

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, 2017 (in millions)	Exposure				RWA
	On-balance sheet	Off-balance sheet ^(a)	Total		
Collateral type:					
Residential mortgages	\$ 19,864	\$ 585	\$ 20,449	\$ 7,432	
Commercial mortgages	17,423	285	17,708	4,485	
Commercial and industrial loans	34,785	2,018	36,803	8,349	
Consumer auto loans	14,589	5,106	19,695	4,488	
Student loans	10,485	1,017	11,502	2,940	
Municipal bonds	1	5,208 ^(b)	5,209	1,128	
Other	9,874	2,912	12,786	3,173	
Total securitization exposure	\$ 107,021	\$ 17,131	\$ 124,152	\$ 31,995	

(a) Includes the counterparty credit risk EAD associated with derivative transactions for which the counterparty credit risk is a securitization exposure.

(b) Represents liquidity facilities supporting nonconsolidated municipal bond VIEs of which \$161 million relate to JPMorgan Chase-sponsored securitization trusts.

Assets securitized

The following table presents the total 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.

	Principal amount outstanding				
June 30, 2017 (in millions)	JPMorgan Chase assets held in traditional securitizations ^(a)	Third-party assets held in traditional securitizations ^(a)	JPMorgan Chase assets held in synthetic securitizations	Assets impaired or past due ^(b)	
Collateral type:					
Residential mortgages	\$ 80,415 ^(c)	\$ 10	\$ —	\$ 10,323 ^(c)	
Commercial mortgages	45,749	31,379	—	1,711	
Commercial and industrial loans	—	—	—	—	
Consumer auto loans	—	—	—	—	
Student loans	234	—	—	23	
Municipal bonds	411	—	—	—	
Other	—	—	—	—	
Total	\$ 126,809	\$ 31,389	\$ —	\$ 12,057	

(a) Represents assets held in nonconsolidated securitization VIEs.

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

(c) Effective with the quarter ended June 30, 2017, residential mortgages now include the principal amount outstanding and assets impaired or past due related to assets held in JPMorgan Chase-sponsored securitization trusts which are not serviced by the Firm.

Securitization activity

The following table presents assets pending securitization (i.e., assets held with the intent to securitize) at June 30, 2017, and the Firm's securitization activities for six months ended June 30, 2017, related to assets held in JPMorgan Chase-sponsored securitization entities that were not consolidated by the Firm, and where sale accounting was achieved based on the accounting rules in effect at the time of the securitization. All instruments transferred into securitization trusts during the six months ended June 30, 2017 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, 2017 (in millions)	Carrying value	Original principal amount	
	Assets pending securitization	Assets securitized with retained exposure	Assets securitized without retained exposure
Collateral type:			
Residential mortgages	\$ 11,299	\$ 2,049	\$ —
Commercial mortgages	2,151	2,774	538
Commercial and industrial loans	—	—	—
Consumer auto loans	—	—	—
Student loans	—	—	—
Municipal bonds	—	—	—
Other	—	—	—
Total	\$ 13,450	\$ 4,823	\$ 538

EQUITY RISK IN THE BANKING BOOK

Equity investments in the banking book include AFS equity securities, principal investments, investments in unconsolidated subsidiaries, 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.

Principal investments are predominantly privately-held financial assets and instruments, typically representing ownership or junior capital positions, that have unique risks due to their illiquidity or for which there is less observable market or valuation data. Principal investments cover multiple asset classes and are made either in stand-alone investing businesses or as part of a broader business platform. Asset classes include tax-oriented investments (e.g., affordable housing and alternative energy investments), private equity, investments funds (including separate accounts) and various debt investments.

Principal investments are typically intended to be held over extended investment periods and, accordingly, the Firm has no expectation for short-term gain with respect to these investments. All other equity and investment fund positions are held primarily for reasons other than capital gains including client relationships and employee benefits.

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 189-196 of the 2016 Form 10-K for a discussion of COLI and the related investment strategy and asset allocation.
- For information on investments in marketable equity, refer to Equity risk in the banking book on page 22 of the 4Q16 Pillar 3 Report.

Accounting and valuation policies for equity investments

- Refer to Principal Risk Management, on page 124 of the 2016 Form 10-K for a discussion of principal risk management related to privately-held investments.
- Refer to Note 1 on page 88 of 2Q17 Form 10-Q and on pages 146-148 of the 2016 Form 10-K for a discussion of the accounting for investments in unconsolidated subsidiaries and investments in affordable housing projects.
- Refer to Note 3 on pages 149-167 of the 2016 Form 10-K for more information on the Firm's methodologies regarding the valuation of private equity direct investments and fund investments (i.e., mutual/collective investment funds, private equity funds, hedge funds and real estate funds).
- Refer to Note 12 on pages 199-204 of the 2016 Form 10-K for further discussion of the accounting for AFS equity securities.

Risk-weight approaches

For equity exposures to investment funds, the Firm employs the Full Look-Through and Simple Modified Look-Through Approaches. For all other banking book equity exposures, the Firm employs the Simple Risk-Weight Approach (SRWA).

- For information on Risk-weight approaches, refer to Equity risk in the banking book on page 22 of the 4Q16 Pillar 3 Report.

Equity risk-weighted assets

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

June 30, 2017 (in millions)		
Risk-weight category	Exposure ^(a)	RWA
0%	\$ 6,179 ^(b)	\$ —
20%	2,536	538
100%	21,347	22,628
600%	167	1,060
Look-through	18,926	10,878
Total	\$ 49,155	\$ 35,104

(a) Includes off-balance sheet unfunded commitments for equity investments of \$959 million.

(b) Consists of Federal Reserve Bank stock.

Carrying value and fair value

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

June 30, 2017 (in millions)		
	Carrying value	Fair value
Publicly traded	\$ 22,202	\$ 22,416
Non-publicly traded	25,731	30,208
Total	\$ 47,933	\$ 52,624

Realized gains/(losses)

Cumulative realized gains/(losses) from sales and liquidations during the three months ended June 30, 2017 were \$255 million. This includes previously recognized unrealized gains/(losses) that have been reversed and booked as realized gains/(losses).

Unrealized gains/(losses)

June 30, 2017 (in millions)	
	Cumulative unrealized gains/(losses), pre-tax
Recognized in AOCI ^(a)	\$ —
Unrecognized ^(b)	4,715

(a) Unrealized gains of \$0 million were included in Tier 2 capital under the Basel III Transitional rules.

(b) Unrecognized gains/(losses) apply to cost and proportional amortization method investments.

MARKET RISK

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

- For a discussion of the Firm's Market Risk Management organization, risk identification and classification, tools used to measure risk, and risk monitoring and control, see Market Risk Management on pages 116-123 of the 2016 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, 2017. The components of market risk RWA are discussed in detail in the Regulatory market risk capital models section on pages 19-22 of this report. RWA is calculated as RBC times a multiplier of 12.5; any calculation differences are due to rounding.

Three months ended June 30, 2017 (in millions)	Risk-based capital	RWA
Internal models:		
Value-at-Risk based measure ("VBM")	\$ 574	\$ 7,170
Stressed Value-at-Risk based measure ("SVBM")	2,389	29,863
Incremental risk charge ("IRC")	373	4,668
Comprehensive risk measure ("CRM")	481	6,012
Total internal models	3,817	47,713
Non-modeled specific risk ^(a)	5,311	66,388
Other charges	1,831	22,884
Total Market risk	\$ 10,959	\$ 136,985

(a) Non-modeled specific risk includes trading book securitization RWA of \$2.9 billion.

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 Firm's portfolio of covered positions under the Basel III capital rules is predominantly comprised of positions held by the CIB. Other lines of business have covered positions with an immaterial firmwide impact.

- Refer to pages 51-52 and to pages 58-62 of the 2016 Form 10-K for a discussion of CIB's Business Segment Results.

Value-at-Risk ("VaR")

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

- Refer to Market Risk Management on pages 116-123 of the 2016 Form 10-K for information on the Firm's VaR framework.

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

- Refer to the Economic-value stress testing section on page 22 for further information on stress testing.

Risk management VaR comparison to Regulatory VaR

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

Under the Firm's Risk Management VaR methodology, assuming current changes in market values are consistent with the historical changes used in the simulation, the Firm would expect to incur VaR "back testing exceptions", defined as losses greater than that predicted by VaR estimates, not more than five times 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 the necessary and appropriate information to respond to risk events on a daily basis. The Firm's Risk Management VaR is disclosed in its SEC filings.

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

As noted above, Regulatory VaR is applied to "covered positions" as defined by the Basel III capital rules, 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.

- Refer to Value-at-risk on pages 118-120 of the 2016 Form 10-K and pages 72-74 of the 2Q17 Form 10-Q for additional information on Risk Management VaR.

Regulatory market risk capital models

VaR-Based Measure ("VBM")

The VBM 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 measures the risk of loss due to market price or rate movements, 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 banking supervisors.

The following table presents the results of the Firm's VBM converted to risk-based capital based on the application of regulatory multipliers which is then translated to risk-weighted assets using a multiplier of 12.5 as prescribed by the Basel III capital rules.

Three months ended June 30, 2017 (in millions)	Average VBM	Risk- based capital ^(a)	RWA
Firm modeled VBM	\$ 191	\$ 574	\$ 7,170

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

CIB VaR-Based Measure ("VBM")

For the three months ended June 30, 2017, average CIB VBM was \$188 million, compared with CIB average Risk Management VaR of \$27 million. The CIB VBM was higher due to the longer holding period (10 days), the higher confidence level (99%), differences in population, and the exclusion of the diversification benefit for certain VaR models.

The following table presents the average, minimum, maximum and period-end VBM by risk type for the CIB and total VBM for the Firm. In addition, the table presents the reduction of total risk resulting from the diversification of the portfolio, which is the sum of the CIB VBMs for each risk type less the total CIB VBM.

	Three months ended June 30, 2017			
(in millions)	Avg.	Min	Max	June 30, 2017
CIB VBM by risk type				
Interest rate ^(a)	\$139	\$121	\$155	\$ 145
Credit spread ^(a)	120	92	132	92
Foreign exchange	42	26	68	53
Equities	50	36	65	61
Commodities and other	43	32	56	32
Diversification benefit	(205) ^(b)	NM ^(c)	NM ^(c)	(198) ^(b)
Total CIB VBM	188	163	235	186
Total Firm VBM	\$191	\$166	\$240	\$ 190

- (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.

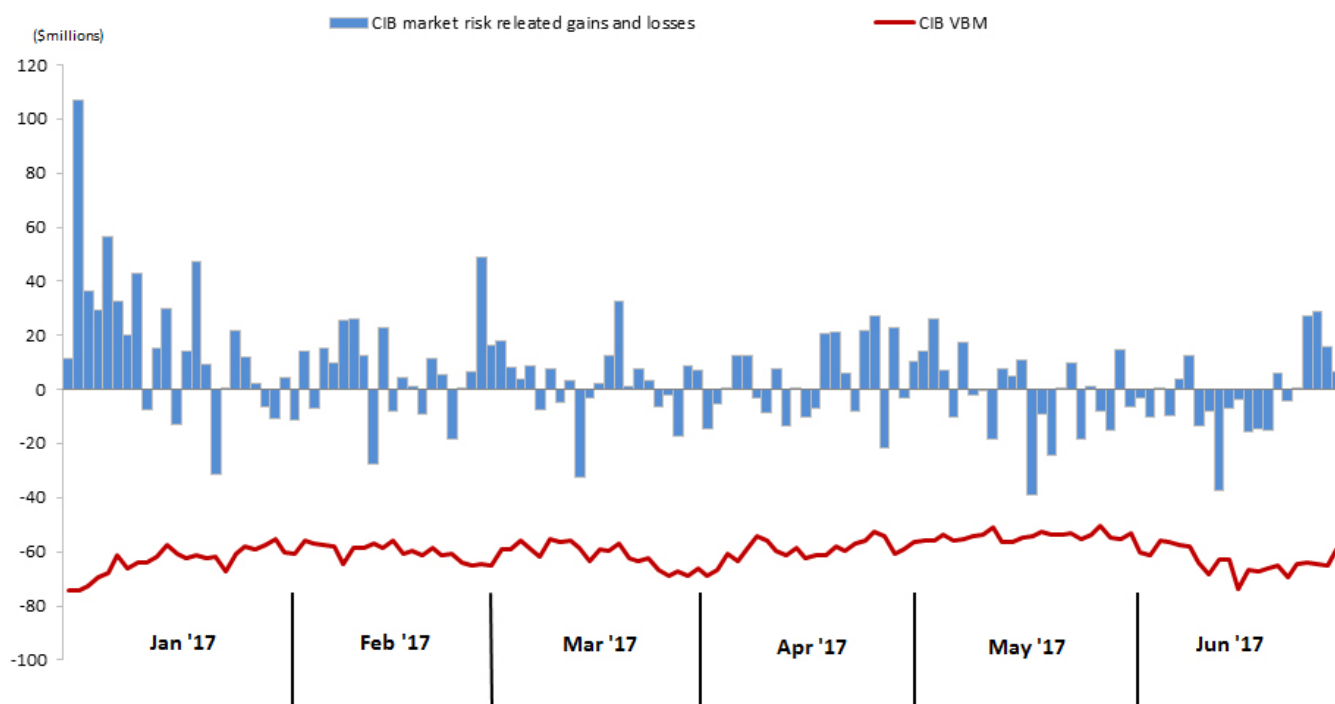
VBM back-testing

The Firm evaluates the effectiveness of its VBM methodology by back-testing, which compares daily market risk-related gains and losses with daily VBM results for a one-day holding period and a 99% confidence level as prescribed by the Basel III capital rules. Market risk-related gains and losses are defined as profits and losses on covered positions, excluding fees, commissions, certain valuation adjustments (e.g., liquidity, DVA), net interest income, and gains and losses arising from intraday trading. VBM “back-testing exceptions” occur when market risk-related losses are greater than the estimate predicted by the VBM for the corresponding day.

The following chart presents the VBM back-testing results for CIB’s covered positions. The VBM presented in the chart reflects the exclusion of the diversification benefit for certain VaR models. The chart shows that for the six months ended June 30, 2017, the CIB observed no back-testing exceptions and posted market risk related gains on 79 of the 130 trading days. The results in the chart below are different from the results of VaR back-testing disclosed in the Firm’s SEC filings due to the differences between the Risk Management VaR and Regulatory VaR as described on page 18-19 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, 2017



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. SVBM is calculated weekly over a 10-day holding period and a 99% confidence level. The Firm’s selection of the one-year period of significant financial stress is evaluated on an ongoing basis.

The following table presents the results of the Firm’s SVBM converted to risk-based capital based on the application of regulatory multipliers which is then translated to risk-weighted assets using a multiplier of 12.5 as prescribed by the Basel III capital rules.

Three months ended June 30, 2017 (in millions)	Average SVBM	Risk-based capital ^(a)	RWA
Firm modeled SVBM	\$ 796	2,389	\$ 29,863

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

The following table presents the average, minimum, maximum and final week of the quarter SVBM for the CIB and the Firm.

(in millions)	Three months ended June 30, 2017			June 30, 2017 ^(a)
	Avg.	Min	Max	
Total CIB SVBM	\$ 794	\$ 711	\$ 894	\$ 747
Total Firm SVBM	\$ 796	\$ 717	\$ 895	\$ 750

(a) Represents the SVBM for the final week of the quarter, in line with Basel III rules. The measurement date need not coincide with the quarter-end date.

Incremental Risk Charge (“IRC”)

The IRC measure captures the risks of issuer default and credit migration 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 is applicable to debt positions which are not correlation trading or securitization positions. The IRC is calculated on a weekly basis.

➤ For information on the Firm’s IRC model, refer to Market Risk on page 27 of the 4Q16 Pillar 3 Report.

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 calculated by multiplying the risk measure by 12.5 as prescribed by the Basel III capital rules.

Three months ended June 30, 2017 (in millions)	IRC ^(a)	RWA
Total CIB IRC	\$ 373	\$ 4,668

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

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

(in millions)	Three months ended June 30, 2017			June 30, 2017
	Avg.	Min	Max	
CIB IRC on trading positions	\$ 300	\$ 262	\$ 373	\$ 373

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. The CRM risk-based capital requirement is comprised of a model-based component and an additional charge, referred to as the CRM surcharge, that is equal to 8% of the total specific risk add-on for such positions using the non-modeled approach.

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.

➤ For information on the Firm’s CRM model, refer to Market Risk on page 28 of the 4Q16 Pillar 3 Report.

The following table presents the CRM risk-based capital requirement for the CIB, which is the same as the risk measure itself, and the risk-weighted assets which is calculated by multiplying the risk measure by 12.5 as prescribed by the Basel III capital rules.

Three months ended June 30, 2017 (in millions)	CRM ^(a)	RWA
Total CIB CRM	\$ 481	\$ 6,012

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

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

(in millions)	Three months ended June 30, 2017			June 30, 2017
	Avg.	Min	Max	
CRM model on CIB trading positions	\$ 223	\$ 116	\$ 267	\$ 195
CRM surcharge on CIB trading positions	258	198	277	205
Total CIB CRM	\$ 481	\$ 314 ^(a)	\$ 534 ^(a)	\$ 400

(a) The minimum and maximum for the CRM model, CRM surcharge, and total CRM measure are determined independently of each other. Therefore, the minimum and maximum for each of the three metrics can occur on different dates and thus may not always be additive.

Aggregate securitization positions

- For information on the aggregate amount of on-balance sheet and off-balance sheet securitization positions by exposure type, refer to Securitization on page 16 of this Pillar 3 Report.

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 (included in non-modeled specific risk).

June 30, 2017 (in millions)	Notional amount ^(a)	Fair value ^(b)
Positions modeled in CRM	\$ 813	\$ 140
Positions not modeled in CRM	175	(3)
Total correlation trading positions	\$ 988	\$ 137

(a) Reflects the net of the notional amount of the correlation trading portfolio, including credit hedges. Negative balances, if any, reflect aggregate net short correlation trading positions.

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

Non-modeled specific risk

Non-modeled specific risk 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 (which is calculated by multiplying the capital requirement by 12.5 as prescribed by the Basel III capital rules) for non-modeled specific risk are shown in the table below.

June 30, 2017 (in millions)	Risk-based capital	RWA
Securitization positions	\$ 232	\$ 2,901
Nonsecuritization positions	5,079	63,487
Total Non-modeled specific risk	\$ 5,311	\$ 66,388

Other charges

Other charges reflect exposures receiving alternative capital treatments. The capital requirement is translated to risk-weighted assets using a multiplier of 12.5 as prescribed by the Basel III capital rules.

June 30, 2017 (in millions)	Risk-based capital	RWA
Total Firm other charges	\$ 1,831	\$ 22,884

Independent review of market risk regulatory capital models

- For information on the independent review of market risk regulatory capital models, refer to Market Risk on page 29 of the 4Q16 Pillar 3 Report and to Model Risk Management on page 142 of the 2016 Form 10-K.

Economic-value stress testing

Along with VaR, stress testing is an important tool in measuring and controlling risk. While VaR reflects the risk of loss due to adverse changes in markets using recent historical market behavior as an indicator of losses, stress testing is intended to capture the Firm's exposure to unlikely but plausible events in abnormal markets. The Firm runs weekly stress tests on market-related risks across the lines of business using multiple scenarios that assume significant changes in risk factors such as credit spreads, equity prices, interest rates, currency rates and commodity prices.

The Firm uses a number of standard scenarios that capture different risk factors across asset classes including geographical factors, specific idiosyncratic factors and extreme tail events. The stress framework calculates multiple magnitudes of potential stress for both market rallies and market sell-offs for each risk factor and combines them in multiple ways to capture different market scenarios. For example, certain scenarios assess the potential loss arising from current exposures held by the Firm due to a broad sell off in bond markets or an extreme widening in corporate credit spreads. The flexibility of the stress testing framework allows risk managers to construct new, specific scenarios that can be used to form decisions about future possible stress events.

Stress testing complements VaR by allowing risk managers to shock current market prices to more extreme levels relative to those historically realized, and to stress test the relationships between market prices under extreme scenarios.

Stress scenarios are defined and reviewed by Market Risk Management, and significant changes are reviewed by the relevant LOB Risk Committees and may be redefined on a periodic basis to reflect current market conditions.

Stress-test results, trends and qualitative explanations based on current market risk positions are reported to the respective LOBs and the Firm's senior management to allow them to better understand the sensitivity of positions to certain defined events and to enable them to manage their risks with more transparency. Results are also reported to the Board of Directors.

The Firm's stress testing framework is utilized in calculating results under scenarios mandated by the Federal Reserve's CCAR and ICAAP processes. In addition, the results are incorporated into the quarterly assessment of the Firm's Risk Appetite Framework and are also presented to the DRPC.

OPERATIONAL RISK

Operational risk is the risk of loss resulting from inadequate or failed processes or systems, human factors or due to external events that are neither market- nor credit-related.

- Refer to Operational Risk on page 31 in 4Q16 Pillar 3 Report and pages 129-130 of the 2016 Form 10-K for a discussion of Operational Risk Management.

Measurement

- Refer to Operational Risk Management on page 129 of the 2016 Form 10-K for information related to operational risk measurement.
- Refer to Capital Risk Management on page 82 of the 2016 Form 10-K and page 46 of the 2Q17 Form 10-Q for operational risk RWA.

Other operational risks

- Refer to Other operational risks on page 130 of the 2016 Form 10-K for information related to other operational risks that can lead to losses which are captured through the Firm's operation risk measurement processes.

INTEREST RATE RISK IN THE BANKING BOOK

The effect of interest rate exposure on the Firm's reported net income is also important as interest rate risk represents one of the Firm's significant market risks. Interest rate risk arises not only from trading activities but also from the Firm's traditional banking activities, which include extension of loans and credit facilities, taking deposits and issuing debt. The Firm evaluates its structural interest rate risk exposure through earnings-at-risk, which measures the extent to which changes in interest rates will affect the Firm's net interest income and interest rate-sensitive fees.

- Refer to the table on page 117 of the 2016 Form 10-K for a summary of positions included in Earnings-at-risk.

The Firm generates a baseline for net interest income and certain interest rate sensitive fees, and then conducts simulations of changes for interest rate-sensitive assets and liabilities denominated in U.S. dollars and other currencies ("non-U.S. dollar" currencies). Earnings-at-risk scenarios estimate the potential change in this baseline, over the following 12 months utilizing multiple assumptions. These scenarios consider the impact on exposures as a result of changes in interest rates from baseline rates, as well as pricing sensitivities of deposits, optionality and changes in product mix. The scenarios include forecasted balance sheet changes, as well as modeled prepayment and reinvestment behavior, but do not include assumptions about actions that could be taken by the Firm in response to any such instantaneous rate changes. Mortgage prepayment assumptions are based on scenario interest rates compared with underlying contractual rates, the time since origination, and other factors which are updated periodically based on historical experience. The pricing sensitivity of deposits in the baseline and scenarios use modeled rates paid which may differ from actual rates paid due to timing lags and other factors. The Firm's earnings-at-risk scenarios are periodically evaluated and enhanced in response to changes in the composition of the Firm's balance sheet, changes in market conditions, improvements in the Firm's simulation and other factors.

- Refer to page 121 of the 2016 Form 10-K for a detailed discussion of Earnings-at-risk.
- Refer to page 75 of the 2017 Form 10-Q for further discussion of Earnings-at-risk.

The Firm's U.S. dollar sensitivities are presented in the table below.

JPMorgan Chase's 12-month earnings-at-risk sensitivity profiles

U.S. dollar	Instantaneous change in rates			
(in billions)	+200bps	+100bps	-100bps	-200bps
U.S. dollar	\$ 3.6	\$ 2.2	\$ (4.5) ^(a)	NM ^(b)

(a) As a result of the June 2017 increase in the Fed Funds target rate to between 1.00% and 1.25%, the -100 bps sensitivity has been included.

(b) Given the level of market interest rates, this downward parallel earnings-at-risk scenario is not considered to be meaningful.

The non-U.S. dollar sensitivities for an instantaneous increase in rates by 200 and 100 basis points results in a 12-month benefit to net interest income of approximately \$800 million and \$500 million, respectively, at June 30, 2017. The non-U.S. dollar sensitivity for an instantaneous decrease in rates by 200 and 100 basis points is not material to the Firm's earnings-at-risk at June 30, 2017.

The Firm's sensitivity to rates is largely a result of assets repricing at a faster pace than deposits.

Separately, another U.S. dollar interest rate scenario used by the Firm – involving a steeper yield curve with long-term rates rising by 100 basis points and short-term rates staying at current levels – results in a 12-month benefit to net interest income of approximately \$800 million. The increase in net interest income under this scenario reflects the Firm reinvesting at the higher long-term rates, with funding costs remaining unchanged. The result of the comparable non-U.S. dollar scenario was not material to the Firm.

SUPPLEMENTARY LEVERAGE RATIO

The SLR is defined as Tier 1 capital under the Basel III capital rules divided by the Firm's total leverage exposure. The tables below present the components of the Firm's SLR as of June 30, 2017 with on-balance sheet amounts calculated as the quarterly average and the off-balance sheet amounts calculated as the average of each of the three month's period-end balances.

Summary comparison of accounting assets and total leverage exposure

(in millions, except ratio)	Jun. 30, 2017
Basel III Advanced Transitional Tier 1 capital	\$ 212,353
Total assets	2,563,174
Less: Adjustments for frequency of calculations ^(a)	3,552
Total average assets^(b)	2,559,622
Less: Adjustments for deductions from Tier 1 capital	47,117
Total adjusted average assets	2,512,505
Adjustment for derivative transactions	356,395
Adjustment for repo-style transactions	23,224
Adjustment for off-balance sheet exposures	300,948
Total leverage exposure	\$ 3,193,072
Basel III Advanced Transitional SLR	6.7%

- (a) The adjustment for frequency of calculations represents the difference between total assets at June 30, 2017, and average assets for the quarter ended June 30, 2017, excluding frequency of calculations for derivatives and repo-style transactions (of \$465 million and \$(79) million, respectively) which are included in the adjustment for the requisite exposure lines.
- (b) To reconcile to total average assets as reported in the 2Q17 Form 10-Q, the total average assets reported in this table must be reduced by the aforementioned adjustment for frequency of calculations for derivative and repo-style transactions.

Derivative transactions

The following table presents the components of total derivative exposure.

(in millions)	Jun. 30, 2017
Replacement cost for all derivative transactions ^(a)	\$ 60,046
Add-on amounts for potential future exposure ("PFE") for all derivative transactions	393,782
Gross-up for collateral posted in derivative transactions if collateral is deducted from on-balance sheet assets	2,305
Less: Exempted exposures to central counterparties ("CCPs") in cleared transactions	71,005
Adjusted effective notional principal amount of sold credit protection	992,749
Less: Effective notional principal amount offsets and PFE deductions for sold credit protection	963,149
Total derivative exposure^(b)	414,728
Less: On-balance-sheet average derivative receivables	57,867
Less: Adjustments for frequency calculations ^(c)	465
Adjustment for derivative transactions	\$ 356,395

- (a) Includes cash collateral received of \$2.2 billion.
- (b) Receivables for cash variation margin that are posted under a qualifying derivative master netting agreement are netted against derivative liabilities and are not included in on-balance sheet assets.
- (c) The adjustment for frequency of calculations represents the difference between total assets at June 30, 2017, and average assets for the quarter ended June 30, 2017.

Repo-style transactions

The following table presents the components of total exposures for repo-style transactions.

(in millions)	Jun. 30, 2017
Gross assets for repo-style transactions ^(a)	\$ 531,972
Less: amounts netted ^(b)	252,410
Counterparty credit risk for all repo-style transactions	26,918
Exposure amount for repo-style transactions where the Firm acts as an agent ^(c)	116
Total exposures for repo-style exposures	306,596
Less: on-balance sheet amounts	
Federal funds sold and securities purchased under resale agreements	188,069
Securities borrowed	95,382
Less: Adjustments for frequency calculations ^(d)	(79)
Adjustment for repo-style transactions	\$ 23,224

- (a) Includes adjustments for securities received where the securities lender has not sold or rehypothecated securities received.
- (b) Reflects netting of transactions where the Firm has obtained an appropriate legal opinion with respect to master netting agreements with the same counterparty, and where other relevant criteria under U.S. GAAP are met.
- (c) Includes exposures where the Firm's guarantee is greater than the difference between the fair value of the security or cash the Firm's customer has lent and the value of the collateral provided.
- (d) The adjustment for frequency of calculations represents the difference between total assets at June 30, 2017, and average assets for the quarter ended June 30, 2017.

Other off-balance sheet exposures

The following table presents wholesale and retail commitments after applying the relevant credit conversion factors.

(in millions)	Jun. 30, 2017
Off-balance sheet exposures - gross notional amounts	\$ 1,090,825
Less: Adjustments for conversion to credit equivalent amounts	789,877
Adjustment for other off-balance sheet exposures	\$ 300,948

APPENDIX

Valuation process

For a discussion of the Firm's valuation methodologies for assets, liabilities and lending-related commitments measured at fair value and the fair value hierarchy, refer to Valuation Process in the 4Q16 Pillar 3 Report and to Note 3 of the 2016 Form 10-K.

- Refer to Note 2 on pages 88-100 of the 2Q17 Form 10-Q, for information on credit and funding valuation adjustments.

Model risk management

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

- For a discussion of the Firm's model risk management, model risk review and governance, refer to Model risk management on page 35 of the 4Q16 Pillar 3 Report and Model Risk Management on page 128 of 2016 Form 10-K.

References to JPMorgan Chase's 2016 Form 10-K and 2Q17 Form 10-Q

JPMorgan Chase's 2016 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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