Morgan Stanley

Basel III Pillar 3 Disclosures Report

For the Quarterly Period Ended March 31, 2018

Morgan Stanley

BASEL III PILLAR 3 DISCLOSURES REPORT

For the quarterly period ended March 31, 2018

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1. Morgan Stanley

Morgan Stanley is a global financial services firm that, through its subsidiaries and affiliates, provides a wide variety of products and services to a large and diversified group of clients and customers, including corporations, governments, financial institutions, and individuals. Unless the context otherwise requires, the terms "Morgan Stanley" or the "Firm" mean Morgan Stanley (the "Company") together with its consolidated subsidiaries.

Morgan Stanley was originally incorporated under the laws of the State of Delaware in 1981, and its predecessor companies date back to 1924. The Firm is a financial holding company under the Bank Holding Company Act of 1956, as amended (the "BHC Act"), and is subject to the regulation and oversight of the Board of Governors of the Federal Reserve System (the "Federal Reserve").

The Firm conducts its business from its headquarters in and around New York City, its regional offices and branches throughout the United States of America ("U.S."), and its principal offices in London, Tokyo, Hong Kong, and other world financial centers. The basis of consolidation for accounting and regulatory purposes is materially the same. The Federal Reserve establishes capital requirements for the Firm, including well-capitalized standards, and evaluates the Firm's compliance with such capital requirements. The Office of the Comptroller of the Currency (the "OCC") establishes similar capital requirements and standards for the Firm's U.S. bank operating subsidiaries Morgan Stanley Bank, N.A. and Morgan Stanley Private Bank, National Association (collectively, "U.S. Bank Subsidiaries").

At March 31, 2018, the Firm's insurance subsidiaries surplus capital included in the total capital of the consolidated group was $29 million. At March 31, 2018, none of the Firm's subsidiaries had capital less than the minimum required capital amount. For descriptions of the Firm's business, see "Business" in Part I, Item 1 of the Firm's Annual Report on Form 10-K for the year ended December 31, 2017 ("2017 Form 10-K").

2. Capital Framework

In December 2010, the Basel Committee on Banking Supervision ("Basel Committee") established a new risk-based capital, leverage ratio, and liquidity framework, known as "Basel III." In July 2013, the U.S. banking regulators issued a final rule to implement many aspects of Basel III ("U.S. Basel III"). The Firm and its U.S. Bank Subsidiaries became subject to U.S. Basel III beginning on January 1, 2014. Regulatory compliance was determined based on capital ratios including regulatory capital and RWA calculated under the transitional rule until December 31, 2017. Beginning January 1, 2018, regulatory compliance of capital ratios are based on fully phased-in rules. On February 21, 2014, the Federal Reserve and the OCC approved the Firm's and its U.S. Bank Subsidiaries' respective use of the U.S. Basel III advanced internal ratings-based approach for determining credit risk capital requirements and advanced measurement approaches for determining operational risk capital requirements to calculate and publicly disclose their risk-based capital ratios beginning with the second quarter of 2014, subject to the "capital floor" discussed below (the "Advanced Approach"). As a U.S. Basel III Advanced Approach banking organization, the Firm is required to compute risk-based capital ratios using both (i) standardized approaches for calculating credit risk weighted assets ("RWAs") and market risk RWAs (the "Standardized Approach"); and (ii) an advanced internal ratings-based approach for calculating credit risk RWAs, an advanced measurement approach for calculating operational risk RWAs, and an advanced approach for market risk RWAs calculated under U.S. Basel III. For a further discussion of the regulatory capital framework applicable to the Firm and other regulatory developments, see "Management's Discussion and Analysis of Financial Condition and Results of Operations ("MD&A")—Liquidity and Capital Resources—Regulatory Requirements" and "Management's Discussion and Analysis of Financial Condition and Results of Operations ("MD&A")—Liquidity and Capital Resources—Regulatory Developments" in the Firm's Quarterly Report on Form 10-Q for the quarter ended March 31, 2018 ("Form 10-Q") and in Part II, Item 7 of the 2017 Form 10-K.

U.S. Basel III requires banking organizations that calculate risk-based capital ratios using the Advanced Approach, including the Firm, to make qualitative and quantitative disclosures regarding their capital and RWAs on a quarterly basis ("Pillar 3 Disclosures"). This report contains the Firm's Pillar 3 Disclosures for its credit, market and operational risks for the quarter ended March 31, 2018, in accordance with the U.S. Basel III, 12 C.F.R. § 217.171 through 217.173 and 217.212.

The Firm's Pillar 3 Disclosures are not required to be, and have not been, audited by the Firm's independent registered public accounting firm. Some measures of exposures contained in this report may not be consistent with accounting principles generally accepted in the U.S. ("U.S. GAAP"), and may not be comparable with measures reported in the 2017 Form 10-K and Form 10-Q.

3. Capital Structure

The Firm has issued a variety of capital instruments to meet its regulatory capital requirements and to maintain a strong capital base. These capital instruments include common stock that qualifies as Common equity Tier 1 ("CET1") capital, non-cumulative perpetual preferred stock that qualifies as Additional Tier 1 capital, and subordinated debt that qualifies as Tier 2 capital, each under U.S. Basel III. For a discussion of the Firm's capital instruments, see Note 11 (Borrowings and Other Secured Financings) and Note 15 (Total Equity) to the consolidated financial statements in Part II, Item 8 of the 2017 Form 10-K, and Note 10 (Borrowings and Other Secured Financings) and Note 14 (Total Equity) to the consolidated financial statements, as well as "MD&A – Liquidity and Capital Resources – Regulatory Requirements – Regulatory Capital Requirements" in the Form 10-Q.[1]

4. Capital Adequacy

Capital strength is fundamental to the Firm's operation as a credible and viable market participant. To assess the amount of capital necessary to support the Firm's current and prospective risk profile, which ultimately informs the Firm's capital distribution capacity, the Firm determines its overall capital requirement under normal and stressed operating environments, both on a current and forward-looking basis. For a further discussion on the Firm's required capital framework, see "MD&A—Liquidity and Capital Resources—Regulatory Requirements—Attribution of Average Common Equity According to the Required Capital Framework" in the Form 10-Q.

In determining its overall capital requirement, the Firm classifies its exposures as either "banking book" or "trading book." Banking book positions, which may be accounted for at amortized cost, lower of cost or market, fair value or under the equity method, are subject to credit risk capital requirements which are discussed in Section 5 "Credit Risk" included herein. Trading book positions represent positions that the Firm holds as part of its market-making and underwriting businesses. These positions, which reflect assets or liabilities that are accounted for at fair value, and certain banking book positions which are subject to both credit risk and market risk charges, (collectively, "covered positions") as well as certain non-covered positions included in Value-at-Risk ("VaR"), are subject to market risk capital requirements, which are discussed in Section 9 "Market Risk" included herein. Some trading book positions, such as derivatives, are also subject to counterparty credit risk capital requirements. Credit and market risks related to securitization exposures are discussed in Section 7 "Securitization Exposures" included herein.

1. Regulatory requirements, including capital requirements and certain covenants contained in various agreements governing indebtedness of the Firm may restrict the Firm's ability to access capital from its subsidiaries. For discussions of restrictions and other major impediments to transfer of funds or capital, see "Risk Factors—Liquidity Risk" in Part I, Item 1A, "Quantitative and Qualitative Disclosures about Market Risk—Risk Management—Liquidity Risk" in Part II, Item 7A, and Note 14 (Regulatory Requirements) to the consolidated financial statements in Part II, Item 8 of the 2017 Form 10-K. For further information on the Firm's capital structure in accordance with U.S. Basel III, see "MD&A—Liquidity and Capital Resources—Regulatory Requirements" in the Form 10-Q.

The following table presents components of the Firm's RWAs in accordance with the Advanced Fully Phased-in Approach:

Risk-weighted assets by U.S. Basel III exposure category

$ in millions		At March 31, 2018[1]
Credit risk RWAs:		
Wholesale exposures	$	109,108
Retail exposures:		
Residential mortgage		2,217
Qualifying revolving		19
Other retail		3,094
Securitization exposures:		
Subject to Supervisory Formula Approach		2,370
Subject to Simplified Supervisory Formula Approach		6,576
Subject to 1,250% risk weight		228
Cleared transactions		2,970
Equity exposures:		
Subject to the Simple Risk-Weighted Approach		21,365
Subject to the Alternative Modified Look-Through Approach		1,499
Other assets[2]		24,759
Credit valuation adjustment		19,909
Total credit risk RWAs[3]	$	194,114
Market risk RWAs:		
Regulatory VaR	$	6,816
Regulatory stressed VaR		24,684
Incremental risk charge		10,985
Comprehensive risk measure		1,104
Specific risk:		
Non-securitizations		16,681
Securitizations		11,574
Total market risk RWAs[4]	$	71,843
Total operational risk RWAs		112,485
Total RWAs	$	378,442

1. For information on the Firm's credit risk RWAs, market risk RWAs and operational risk RWAs roll-forward from December 31, 2017 to March 31, 2018, see "MD&A—Liquidity and Capital Resources—Regulatory Requirements—Regulatory Capital Requirements" in the Form 10-Q.
2. Amount reflects assets not in a defined category of $21,308 million, non-material portfolios of exposures of $1,248 million and unsettled transactions of $2,202 million.
3. In accordance with U.S. Basel III, credit risk RWAs, with the exception of Credit Valuation Adjustment ("CVA"), reflect a 1.06 multiplier.
4. For more information on the Firm's measure for market risk and market risk RWAs, see Section 9 "Market Risk" herein.

The following tables present the risk-based capital ratios for the Firm and its U.S. Bank Subsidiaries under both the Advanced and Standardized approaches. At March 31, 2018, the Firm's risk-based capital ratios were lower under the Standardized Approach rules; similarly, the risk-based capital ratios for the Firm's U.S. Bank Subsidiaries were also lower under the Standardized Approach rules.

Regulatory Capital

	Morgan Stanley	
$ in millions	**Standardized Approach**	**Advanced Approach**
CET1 capital	$ 60,568	$ 60,568
Tier 1 capital	$ 69,213	$ 69,213
Total capital	$ 79,363	$ 79,138
Total RWA	$ 390,390	$ 378,442
Adjusted average assets	$ 846,868	N/A
Supplementary leverage exposure	N/A	$ 1,091,518
CET1 capital ratio	15.5%	16.0%
Tier 1 capital ratio	17.7%	18.3%
Total capital ratio	20.3%	20.9%
Tier 1 leverage ratio	8.2%	N/A
Supplementary leverage ratio	N/A	6.3%

	Morgan Stanley Bank, N.A.	
	Standardized Approach	**Advanced Approach**
CET1 capital ratio	19.7%	30.1%
Tier 1 capital ratio	19.7%	30.1%
Total capital ratio	20.1%	30.5%
Tier 1 leverage ratio	11.8%	N/A
Supplementary leverage ratio	N/A	9.0%

	Morgan Stanley Private Bank, N.A.	
	Standardized Approach	**Advanced Approach**
CET1 capital ratio	24.2%	47.7%
Tier 1 capital ratio	24.2%	47.7%
Total capital ratio	24.4%	47.8%
Tier 1 leverage ratio	9.7%	N/A
Supplementary leverage ratio	N/A	9.3%

Risk Management Objectives, Structure and Policies

For a discussion of the Firm's risk management objectives, structure and policies, including its risk management strategies and processes, the structure and organization of its risk management function, the scope and nature of its risk reporting and measurement systems, and its policies for hedging and mitigating risk and strategies and processes for monitoring the continuing effectiveness of hedges and mitigants, see "Quantitative and Qualitative Disclosures about Market Risk—Risk Management" in the Form 10-Q.

Capital Conservation Buffer, Countercyclical Capital Buffer and Global Systemically Important Bank Surcharge

Under U.S. Basel III, the Firm and its U.S. Bank Subsidiaries are subject to the capital conservation buffer, the countercyclical capital buffer ("CCyB"), and the global systemically important bank ("G-SIB") surcharge (collectively, the "buffers"). These buffers, which apply above the minimum risk-based capital ratio requirements, are effective under a phased-in approach that commenced in 2016, and will be fully phased in by the beginning of 2019. On a fully phased-in basis, a greater than 2.5% Common Equity Tier 1 capital conservation buffer, up to a 2.5% Common Equity Tier 1 CCyB (currently set by U.S. banking agencies at zero), and a Common Equity Tier 1 G-SIB capital surcharge (currently at 3%) are required to be maintained. In 2017 and 2018, each of the buffers is 50% and 75% of the fully phased-in requirement, respectively. Failure to maintain the buffers would result in restrictions on the Firm and its U.S. Bank Subsidiaries' ability to make capital distributions, including the payment of dividends and the repurchase of stock, and to pay discretionary bonuses to executive officers.

The aggregate of the minimum buffers is 4.13% under transitional provisions in 2018, and is computed as the sum of 75% of the 2.5% capital conservation buffer plus 75% of the current 3% G-SIB surcharge plus 75% of the CCyB, currently set at zero. At March 31, 2018, on a transitional basis, the Firm's capital conservation buffer of 11.0% exceeds the minimum requirement. Therefore, the Firm is not subject to payout ratio limitations on its eligible retained income of $6,111 million, which represents the aggregate of the Firm's net income for the previous four quarters net of any distributions and associated tax effects not already reflected in net income.

For further information on the transitional provisions for minimum risk-based capital ratios, see "MD&A—Liquidity and Capital Resources—Regulatory Requirements—Regulatory Capital Requirements—Minimum Risk-Based Capital Ratios: Transitional Provisions" in Part II, Item 7 of the 2017 Form 10-K.

5. Credit Risk

5.1. Credit Risk: General Disclosures

Credit risk refers to the risk of loss arising when a borrower, counterparty, or issuer does not meet its financial obligations to the Firm. Credit risk includes country risk, which is the risk that events in, or affecting a foreign country might adversely affect the Firm. "Foreign country" means any country other than the U.S.[1] The Firm primarily incurs credit risk exposure to institutions and individual investors through its Institutional Securities and Wealth Management business segments. In order to help protect the Firm from losses, the Credit Risk Management Department establishes Firm-wide practices to evaluate, monitor, and control credit risk exposure at the transaction, obligor, and portfolio levels. The Credit Risk Management Department approves extensions of credit, evaluates the creditworthiness of the Firm's counterparties and borrowers on a regular basis, and ensures that credit exposure is actively monitored and managed. For a further discussion of the Firm's credit risk and credit risk management framework, see "Quantitative and Qualitative Disclosures about Market Risk—Risk Management—Credit Risk" in Part II, Item 7A of the 2017 Form 10-K and the "Quantitative and Qualitative Disclosures about Market Risk – Risk Management – Credit Risk" in the Form 10-Q. For a discussion of the Firm's risk governance structure, see "Quantitative and Qualitative Disclosures about Market Risk—Risk Management—Overview—Risk Governance Structure" in Part II, Item 7A of the 2017 Form 10-K.

1. U.S. includes the District of Columbia, Puerto Rico, and U.S. territories and possessions.

The following tables present certain of the Firm's on- and off-balance sheet positions for which the Firm is subject to credit risk exposure. These amounts do not include the effects of certain credit risk mitigation techniques (*e.g.*, collateral and netting not permitted under U.S. GAAP), equity investments or liability positions that also would be subject to credit risk capital calculations, and amounts related to items that are deducted from regulatory capital.

The following tables are presented on a U.S. GAAP basis and reflect amounts by product type, region (based on the legal domicile of the counterparty), remaining contractual maturity and counterparty or industry type.

Credit Risk Exposures by Product Type and Geographic Region

	At March 31, 2018					
$ in millions	**Americas**	**Europe, Middle East and Africa**	**Asia**	**Netting**	**Total**	**Quarterly Average[1]**
Product Type						
Cash[2]	$ 42,689	$ 31,440	$ 13,188	$ -	**$ 87,317**	$ 83,360
Derivative and other contracts[3]	118,305	166,983	15,301	(267,441)	**33,148**	33,504
Investment securities	80,631	10	-	-	**80,641**	79,719
Securities financing transactions[3, 4]	188,000	89,575	57,270	(118,764)	**216,081**	210,431
Loans[5]	133,793	17,611	5,978	-	**157,382**	150,769
Other[6]	19,264	14,109	11,142	-	**44,515**	42,975
Total on-balance sheet	**$ 582,682**	**$ 319,728**	**$ 102,879**	**$ (386,205)**	**$ 619,084**	**$ 600,758**
Commitments[7]	$ 105,692	$ 62,720	$ 37,978	$ -	**$ 206,390**	$ 188,536
Guarantees[8]	11,345	113	4	-	**11,462**	11,514
Total off-balance sheet	**$ 117,037**	**$ 62,833**	**$ 37,982**	**$ -**	**$ 217,852**	**$ 200,050**

Remaining Contractual Maturity Breakdown by Product Type

	At March 31, 2018				
	Years to Maturity				
$ in millions	**Less than 1**	**1-5**	**Over 5**	**Netting**	**Total**
Product Type					
Cash[2]	$ 87,317	$ -	$ -	$ -	**$ 87,317**
Derivative and other contracts[3]	79,511	76,737	144,341	(267,441)	**33,148**
Investment securities	8,317	26,460	45,864	-	**80,641**
Securities financing transactions[3, 4]	332,390	2,455	-	(118,764)	**216,081**
Loans[5]	81,059	41,740	34,583	-	**157,382**
Other[6]	32,744	4,352	7,419	-	**44,515**
Total on-balance sheet	**$ 621,338**	**$ 151,744**	**$ 232,207**	**$ (386,205)**	**$ 619,084**
Commitments[7]	$ 106,815	$ 90,662	$ 8,913	$ -	**$ 206,390**
Guarantees[8]	4,173	2,386	4,903	-	**11,462**
Total off-balance sheet	**$ 110,988**	**$ 93,048**	**$ 13,816**	**$ -**	**$ 217,852**

Distribution of Exposures by Product Type and Counterparty or Industry Type

	At March 31, 2018					
	Wholesale					
$ in millions	Bank[9]	Sovereign	Corporate and Other[10]	Retail	Netting	Total
Product Type						
Cash[2]	$ 34,011	$ 39,105	$ 14,201	$ -	$ -	**$ 87,317**
Derivative and other contracts[3]	163,413	7,711	129,465	-	(267,441)	**33,148**
Investment securities	-	77,801	2,840	-	-	**80,641**
Securities financing transactions[3, 4]	29,814	32,368	272,663	-	(118,764)	**216,081**
Loans[5]	350	444	82,611	73,977	-	**157,382**
Other[6]	14	3,575	40,926	-	-	**44,515**
Total on-balance sheet	**$ 227,602**	**$ 161,004**	**$ 542,706**	**$ 73,977**	**$ (386,205)**	**$ 619,084**
Commitments[7]	$ 17,787	$ 3,663	$ 177,975	$ 6,965	$ -	**$ 206,390**
Guarantees[8]	-	-	11,462	-	-	**11,462**
Total off-balance sheet	**$ 17,787**	**$ 3,663**	**$ 189,437**	**$ 6,965**	**$ -**	**$ 217,852**

1. Average balances are calculated based on month-end balances or, where month-end balances are unavailable, quarter-end balances are used.
2. Amounts include Cash and due from banks, Interest bearing deposits with banks, as well as Restricted cash.
3. For further discussions on master netting agreements and collateral agreements, see Note 4 (Derivative Instruments and Hedging Activities) and Note 6 (Collateralized Transactions) to the consolidated financial statements in the Form 10-Q.
4. Amounts reflect Securities purchased under agreements to resell and Securities borrowed.
5. Amounts reflect loans held for investment, loans held for sale, and banking book loans designated at fair value, as well as margin lending and employee loans.
6. Amounts primarily reflect Customer and other receivables, Intangible assets, premises, equipment and software costs and banking book U.S. government and agency securities designated at fair value.
7. Amounts reflect letters of credit and other financial guarantees obtained to satisfy collateral requirements, lending commitments, forward-starting securities purchased under agreement to resell and securities borrowed. For a further discussion on the Firm's commitments, see Note 11 (Commitments, Guarantees and Contingencies) to the consolidated financial statements in the Form 10-Q.
8. Amounts reflect standby letters of credit and other financial guarantees issued, and liquidity facilities. For a further discussion on the Firm's guarantees, see Note 11 (Commitments, Guarantees and Contingencies) to the consolidated financial statements in the Form 10-Q.
9. Bank counterparties primarily include banks and depository institutions.
10. Corporate and Other counterparties include exchanges and clearing houses.

5.2. Credit Risk: General Disclosure for Impaired and Past Due Loans

The Firm provides loans or lending commitments within its Institutional Securities and Wealth Management business segments. The Firm accounts for loan and loan commitments using the following designations: held for investment, held for sale, and fair value. The allowance for loan losses estimates probable losses inherent in the held for investment portfolio as well as probable losses related to loans specifically identified as impaired.

For a discussion of the Firm's loan disclosures (including current and comparable prior period loan information by product type), such as the allowance for loan losses, impaired loans, reconciliation of changes in allowance for loan losses, and credit quality indicators, see Note 7 (Loans and Allowance for Credit Losses) to the consolidated financial statements in Part II, Item 8 of the 2017 Form 10-K and Note 7 (Loans, Lending Commitments and Allowance for Credit Losses) to the consolidated financial statements in the Form 10-Q.

For a discussion of the Firm's determination of past due or delinquency status, placing of loans on nonaccrual status, returning of loans to accrual status, identification of impaired loans for financial accounting purposes, methodology for estimating allowance for loan losses, and charge-offs of uncollectible amounts, see Note 2 (Significant Accounting Policies) to the consolidated financial statements in Part II, Item 8 of the 2017 Form 10-K.

The following tables are presented on a U.S. GAAP basis and reflect details on impaired and past due loans along with allowances and charge-offs for the Firm's loans held for investment. The tables also include loans held for sale and loans held in the banking book designated at fair value in the "Past due 90 days loans and on nonaccrual" line items.

	At March 31, 2018				
$ in millions	**Bank[1]**	**Sovereign**	**Corporate and Other[2]**	**Retail**	**Total**
Impaired loans with allowance	$ -	$ -	$ 15	$ -	**$ 15**
Impaired loans without allowance[3]	-	-	69	49	**118**
Past due 90 days loans and on nonaccrual	5	-	269	417	**691**
Allowance for loan losses	2	1	214	26	**243**
Net charge-offs for the quarter ended March 31, 2018	-	-	-	-	**-**

1. Bank counterparties primarily include banks and depository institutions.
2. Corporate and Other counterparties include exchanges and clearing houses.
3. At March 31, 2018, no allowance was recorded for these loans as the present value of the expected future cash flows (or alternatively, the observable market price of the loan or the fair value of the collateral held) exceeded or equaled the carrying value.

	At March 31, 2018			
$ in millions	**Americas**	**Europe, Middle East and Africa**	**Asia**	**Total**
Impaired loans	$ 129	$ -	$ 4	**$ 133**
Past due 90 days loans and on nonaccrual	544	27	120	**691**
Allowance for loan losses	199	42	2	**243**

Loans Past Due and on Nonaccrual by Counterparty or Industry Type

	At March 31, 2018			
$ in millions	**90 - <120 Days**	**120 - <180 Days**	**180 Days or more**	**Total**
Counterparty Type				
Bank	$ -	$ -	$ 5	**$ 5**
Sovereign	-	-	-	**-**
Corporate and other	-	-	269	**269**
Retail	2	387	28	**417**
Total	**$ 2**	**$ 387**	**$ 302**	**$ 691**

5.3. Portfolios Subject to Internal Ratings-Based Risk-Based Capital Formulas

The Firm utilizes its internal ratings system in the calculation of RWAs for the purpose of determining U.S. Basel III regulatory capital requirements for wholesale and retail exposures, as well as other internal risk management processes such as determining credit limits.

Internal Ratings System Design

As a core part of its responsibility for the independent management of credit risk, the Credit Risk Management Department maintains a control framework to evaluate the risk of obligors and the structure of credit facilities (for loans, derivatives, securities financing transactions, etc.), both at inception and periodically thereafter. For both wholesale and retail exposures, the Firm has internal ratings methodologies that assign a Probability of Default ("PD") and a Loss Given Default ("LGD"). These risk parameters, along with Exposure at Default ("EAD"), are used to compute credit risk RWAs under the Advanced Approach. Internal credit ratings serve as the Credit Risk Management Department's assessment of credit risk, and the basis for a comprehensive credit limits framework used to control credit risk. The Firm uses quantitative models and judgment to estimate the various risk parameters related to each obligor and/or credit facility. Internal ratings procedures, methodologies, and models are all independently and formally governed, and models and methodologies are reviewed by a separate model risk management oversight function.

Credit Risk Management employs a PD scale that reflects the long-run "through the cycle" average one-year default probability of counterparties in every rating category. The LGD is an estimate of the expected economic loss incurred by the Firm during an economic downturn in the event of default by an obligor within a one-year horizon, or an estimate of the long-run default-weighted average economic loss incurred by the Firm in the event of default by an obligor within a one-year horizon, whichever is greater, expressed as a percentage of EAD. The estimation of LGD considers all the costs of workout and collections net of recoveries (adjusted for time value of money). EAD is the estimated amount due at the time of default, expected during economic downturn conditions, if the default occurs within a one-year horizon. EAD for certain products may be reduced by certain credit risk mitigants. Contingent liabilities, such as undrawn commitments and standby letters of credit, are considered in determining EAD.

Internal Ratings System Process

The performance of the overall internal ratings system is monitored on a quarterly basis. This involves a review of key performance measures that include rating overrides, the accuracy ratio and a comparison of internal ratings versus applicable agency ratings. The review is performed by an independent group, and the results and conclusions are reported to corresponding credit risk governance committees. The overall effectiveness of the internal ratings system is assessed annually and the evaluation results go through a rigorous challenge process by various governance committees before they are presented to the Firm's Board of Directors.

Wholesale Exposures

Wholesale exposures refer to credit exposures that are evaluated and rated on an individual basis. Wholesale exposures may be to companies, sovereigns, individuals, trusts, funds, or Special Purpose Entities/Special Purpose Vehicles that may arise from a variety of business activities, including, but not limited to, entering into swap or other derivative contracts under which counterparties have obligations to make payments to the Firm; extending credit to clients through various lending commitments; providing short-term or long-term funding that is secured by physical or financial collateral whose value may at times be insufficient to fully cover the loan repayment amount; and posting margin and/or collateral and/or deposits to clearing houses, clearing agencies, exchanges, banks, securities companies and other financial counterparties.

The Credit Risk Management Department rates wholesale counterparties based on an analysis of the obligor and industry- or sector-specific qualitative and quantitative factors. The ratings process typically includes an analysis of the obligor's financial statements; evaluation of its market position, strategy, management, legal and environmental issues; and consideration of industry dynamics affecting its performance. The Credit Risk Management Department also considers securities prices and other financial markets to assess financial flexibility of the obligor. The Credit Risk Management Department collects relevant information to rate an obligor. If the available information for an obligor is limited, a conservative rating is assigned to reflect uncertainty arising from the limited information.

Retail Exposures

Retail exposures generally include exposures to individuals and exposures to small businesses that are managed as part of a pool of exposures with similar risk characteristics, and not on an individual exposure basis. The Firm incurs retail exposure credit risk within its Wealth Management residential mortgage business by making single-family residential mortgage loans in the form of conforming, nonconforming, or home equity lines of credit ("HELOC"). In addition, the Firm grants loans to certain Wealth Management employees primarily in conjunction with a program to retain and recruit such employees. The primary source of the Firm's retail exposure is concentrated in two of three U.S. Basel III retail exposure categories: Residential Mortgages and Other Retail Exposures. The third U.S. Basel III retail category, Qualifying Revolving Exposures, is not currently relevant to the Firm as it has no assets related to this category.

Retail exposures consist of many small loans, thereby making it generally inefficient to assign ratings to each individual loan. Individual loans, therefore, are segmented and aggregated into pools. The Credit Risk Management Department develops the methodology to assign PD, LGD, and EAD estimates to these pools of exposures with similar risk characteristics, using factors that may include the Fair Isaac Corporation ("FICO") scores of the borrowers.

Internal Ratings System Exposures

The following table provides a summary of the distribution of Internal Ratings Based Advanced Approach risk parameters that the Firm uses to calculate credit risk RWAs for wholesale and retail exposures. The table also provides average risk-weighted values across obligor types and rating grades. The Firm currently does not have any high volatility commercial real estate or qualifying revolving exposures.

		At March 31, 2018					
$ in millions	**PD Band (%)**	**Average PD (%)[1]**	**Average LGD %[1, 2]**	**Undrawn Commitment**	**EAD[2]**	**Average Counterparty EAD[3]**	**Average risk weight (%)**
Subcategory							
Wholesale							
Exposures	0.00 ≤ PD < 0.35	0.07%	39.05%	$ 89,280	$ 299,113	$ 10,052	19.65%
	0.35 ≤ PD < 1.35	0.74%	39.89%	15,869	29,721	492	76.47%
	1.35 ≤ PD < 10.00	4.38%	41.87%	12,602	15,030	132	145.34%
	10.00 ≤ PD < 100.00	28.11%	46.92%	241	1,640	102	274.27%
	100 (Default)	100.00%	N/A	360	1,169	89	106.00%
Sub-total				$ 118,352	$ 346,673	$ 10,867	
Residential							
Mortgages	0.00 ≤ PD < 0.15	0.05%	16.05%	$ 343	$ 21,594	$ 1	2.46%
	0.15 ≤ PD < 0.35	0.32%	13.94%	11	3,375	2	8.22%
	0.35 ≤ PD < 1.35	1.33%	11.55%	0	1,925	4	18.51%
	1.35 ≤ PD < 10.00	3.17%	21.36%	1	562	1	63.99%
	10.00 ≤ PD < 100.00	20.86%	36.68%	-	302	1	203.68%
	100 (Default)	100.00%	N/A	0	91	1	106.00%
Sub-total				$ 356	$ 27,849	$ 10	
Other Retail							
Exposures	0.00 ≤ PD < 1.50	-	-	$ -	$ -	$ -	-
	1.50 ≤ PD < 3.00	2.21%	100.00%	-	43	17	60.81%
	3.00 ≤ PD < 5.00	4.77%	14.54%	-	97	0	22.65%
	5.00 ≤ PD < 8.00	6.38%	51.60%	-	3,399	2	83.02%
	8.00 ≤ PD < 100.00	-	-	-	-	-	-
	100 (Default)	100.00%	N/A	-	211	1	106.00%
Sub-total				$ -	$ 3,750	$ 20	
Total				**$ 118,708**	**$ 378,272**	**$ 10,897**	

N/A—Not Applicable

1. Amounts reflect the effect of eligible guarantees and eligible credit derivatives.
2. Under U.S. Basel III, credit risk mitigation in the form of collateral may be applied by reducing EAD or adjusting the LGD. The Firm may apply one or the other approach depending on product type.
3. Amounts represent the weighted average EAD per counterparty within the respective PD band, weighted by its pro rata EAD contribution.

5.4. General Disclosure for Wholesale Counterparty Credit Risk of Derivative Contracts, Repo-Style Transactions, and Eligible Margin Lending

Counterparty Credit Risk Overview

Counterparty credit exposure arises from the risk that parties are unable to meet their payment obligations under derivative contracts, repo-style transactions, and eligible margin loans. Derivative contracts and securities underlying repo-style transactions have a risk of increased potential future counterparty exposure from changes in movements in market prices and other risk factors. Potential future exposure is mitigated by the use of netting and collateral agreements. The Firm uses internal models to compute exposure that includes the mitigating effects of netting and collateral in valuing over-the-counter ("OTC") and exchange-traded derivative contracts and repo-style transactions. For eligible margin lending, the Firm uses either internal models or the collateral haircut approach ("CHA") as prescribed in the U.S. Basel III rules. The use of netting, collateral, internal models methodology ("IMM"), and CVAs are discussed further below, in addition to other counterparty credit risk management practices.

Derivative Contracts

The Firm actively manages its credit exposure through the application of collateral arrangements and readily available market instruments such as credit derivatives. The use of collateral in managing derivative risk is standard in the market place, and is governed by appropriate documentation such as the Credit Support Annex to the International Swaps and Derivatives Association, Inc. ("ISDA") documentation. In line with these standards, the Firm generally accepts only cash, government bonds, corporate debt, and main index equities as collateral. The Firm has policies and procedures for reviewing the legal enforceability of credit support documents in accordance with applicable rules.

Repo-Style Transactions

Repo-style transactions include securities sold under agreements to repurchase ("repurchase agreements"), securities purchased under agreements to resell ("reverse repurchase agreements"), securities borrowed and securities loaned transactions. The Firm enters into repo-style transactions to, among other things, acquire securities to cover short positions and settle other securities obligations, to accommodate customers' needs and to finance the Firm's inventory positions. The Firm manages credit exposure arising from such transactions by, in appropriate circumstances, entering into master netting agreements and collateral agreements with counterparties that provide the Firm, in the event of a counterparty default (such as bankruptcy or a counterparty's failure to pay or perform), with the right to net a counterparty's rights and obligations under such agreement, and liquidate and set off collateral held by the Firm against the net amount owed by the counterparty. Under these agreements and transactions, the Firm either receives or provides collateral, including U.S. government and agency securities, other sovereign government obligations, corporate and other debt, and corporate equities.

Eligible Margin Lending

The Firm also engages in customer margin lending and securities-based lending to its Institutional Securities and Wealth Management clients that allow clients to borrow against the value of qualifying securities. This lending activity is included within Customer and other receivables or Loans in the consolidated balance sheets. The Firm monitors required margin levels and established credit terms daily and, pursuant to such guidelines, requires customers to deposit additional collateral or reduce positions, when necessary.

Netting

The Firm recognizes netting in its estimation of EAD where it has a master netting agreement in place and other relevant requirements are met. The ISDA Master Agreement is an industry-standard master netting agreement that is typically used to document derivative transactions. The Firm generally uses the ISDA Master Agreement and similar master netting agreements to document derivative and repo-style transactions. For a discussion of the Firm's master netting agreements, see Note 4 (Derivative Instruments and Hedging Activities) and Note 6 (Collateralized Transactions) to the consolidated financial statements in the Form 10-Q.

Collateral

The Firm may require collateral depending on the credit profile of the Firm's counterparties. There is an established infrastructure to manage, maintain, and value collateral on a daily basis. Collateral held is managed in accordance with the Firm's guidelines and the relevant underlying agreements.

For a discussion of the Firm's use of collateral as a credit risk mitigant, including with respect to derivatives, repo-style transactions and eligible margin loans, see Note 4 (Derivative Instruments and Hedging Activities) and Note 6 (Collateralized Transactions) to the consolidated financial statements in the Form 10-Q. For further information on the Firm's valuation approaches, including those for collateral, see Note 2 (Significant Accounting Policies) and Note 3 (Fair Values) to the consolidated financial statements in Part II, Item 8 of the 2017 Form 10-K.

General Disclosure for Counterparty Credit Risk

The following table presents the exposures for derivative and other contracts and securities financing transactions, consisting of repo-style transactions and eligible margin lending, presented on a U.S. GAAP basis.

$ in millions	At March 31, 2018
Derivative and Other Contracts:	
Gross positive fair value	$ 300,589
Counterparty netting benefit	(224,493)
Net current credit exposure	$ 76,096
Securities collateral	(12,646)
Cash collateral	(42,968)
Net exposure (after netting and collateral)	**$ 20,482**
Securities Financing Transactions:	
Repo-Style Transactions:	
Gross notional exposure	$ 334,845
Net exposure (after netting and collateral)	8,967
Eligible Margin Lending:	
Gross notional exposure[1]	$ 66,503

1. At March 31, 2018, the fair value of the collateral held exceeded the carrying value of margin loans.

The following table is presented on a U.S. GAAP basis and reflects the notional amount of outstanding credit derivatives at March 31, 2018, used to hedge the Firm's own portfolio and those undertaken in connection with client intermediation activities.

	At March 31, 2018			
	Hedge Portfolio		Intermediation Activities	
$ in millions	Purchased	Sold	Purchased	Sold
Credit derivative type				
Credit default swaps	$ 29,327	$ 9,733	$ 228,444	$ 224,334
Total return swaps	-	-	2,642	4,624
Credit options	450	-	17,007	13,528
Total	**$ 29,777**	**$ 9,733**	**$ 248,093**	**$ 242,486**

For a further discussion of the Firm's credit derivatives, see "Quantitative and Qualitative Disclosures about Market Risk—Risk Management—Credit Risk—Credit Exposure–Derivatives" and Note 4 (Derivative Instruments and Hedging Activities) to the consolidated financial statements in the Form 10-Q.

Internal Models Methodology

The Firm has been approved by its primary regulators to use the IMM to estimate counterparty exposure for regulatory capital purposes. Under the IMM approach, the Firm uses simulation models to estimate the distribution of counterparty exposures at specified future time horizons. The simulation models project potential values of various risk factors that affect the Firm's counterparty portfolio (*e.g.*, interest rates, equity prices, commodity prices, and credit spreads) under a large number of simulation paths, and then determine possible changes in counterparty exposure for each path by re-pricing transactions with that counterparty under the projected risk factor values. A counterparty's expected positive exposure profile is determined from the resulting modeled exposure distribution to estimate EAD in calculating credit risk RWAs for regulatory capital ratio purposes. For a small population of exposures not modeled under this simulation method, the Firm calculates EAD for regulatory capital purposes using a more conservative but less risk-sensitive method. The internal models incorporate the effects of legally enforceable netting and collateral agreements in estimating counterparty exposure.

Collateral Haircut Approach Methodology

For certain eligible margin loans, EAD is adjusted to reflect the risk mitigating effect of financial collateral in line with the CHA as prescribed in the U.S. Basel III rules. CVA and other counterparty credit risk management practices are discussed further below.

The table below presents the EAD used for the Firm's determination of regulatory capital for derivative and other contracts and securities financing transactions, excluding default fund contributions.

	At March 31, 2018					
	Internal Models Methodology		CHA Methodology		Total	
$ in millions	EAD	RWA	EAD	RWA	EAD	RWA
Derivative and other contracts[1]	$ 85,738	$ 27,082	$ -	$ -	**$ 85,738**	**$ 27,082**
Securities financing transactions	38,370	11,434	2,066	3,188	**40,436**	**14,622**
Other	5,011	106	-	-	**5,011**	**106**
Total	**$ 129,119**	**$ 38,622**	**$ 2,066**	**$ 3,188**	**$ 131,185**	**$ 41,810**

1. Amount includes client exposures related to cleared transactions.

Other Counterparty Credit Risk Management Practices

Credit Valuation Adjustment

CVA refers to the fair value adjustment to reflect counterparty credit risk in the valuation of OTC derivative contracts. U.S. Basel III requires the Firm to calculate RWAs for CVA.

The Firm establishes a CVA for OTC derivative transactions based on expected credit losses given the probability and severity of a counterparty default. The adjustment is determined by evaluating the credit exposure to the counterparty and by taking into account the market value of a counterparty's credit risk as implied by credit spreads, and the effect of allowances for any credit risk mitigants such as legally enforceable netting and collateral agreements.

CVA is recognized in profit and loss on a daily basis and effectively represents an adjustment to reflect the credit component of the fair value of the derivatives receivable. Given that the previously recognized CVA reduces the potential loss faced in the event of a counterparty default, exposure metrics are reduced for CVA.

Credit Limits Framework

The Firm employs an internal comprehensive and global Credit Limits Framework as one of the primary tools used to manage credit risk levels across the Firm. The Credit Limits Framework includes single-name limits and portfolio concentration limits by country, industry, and product type. The limits within the Credit Limits Framework are calibrated to the Firm's risk tolerance and reflect factors that include the Firm's capital levels and the risk attributes of the exposures managed by the limits. Credit exposure is actively monitored against credit limits, and excesses are identified and escalated in accordance with established governance standards. In addition, credit limits are evaluated and reaffirmed annually or more frequently as necessary.

Additional Collateral Requirements Due to Credit Rating Downgrade

For a discussion of the additional collateral or termination payments that may be called in the event of a future credit rating downgrade of the Firm, see "MD&A—Liquidity and Capital Resources—Credit Ratings" in the Form 10-Q.

Wrong-Way Risk

The Firm incorporates the effect of specific wrong-way risk in its calculation of the counterparty exposure. Specific wrong-way risk arises when a transaction is structured in such a way that the exposure to the counterparty is positively correlated with the PD of the counterparty; for example, a counterparty writing put options on its own stock or a counterparty collateralized by its own or related party stock. The Firm considers specific wrong-way risk when approving transactions. The Firm also monitors general wrong-way risk, which arises when the counterparty PD is correlated with general market or macroeconomic factors. The credit assessment process identifies these correlations and manages the risk accordingly.

5.5. Credit Risk Mitigation

Overview

In addition to the use of netting and collateral for mitigating counterparty credit risk discussed above, the Firm may seek to mitigate credit risk from its lending and derivatives transactions in multiple ways, including through the use of guarantees and hedges. At the transaction level, the Firm seeks to mitigate risk through management of key risk elements such as size, tenor, financial covenants, seniority and collateral. The Firm actively hedges its lending and derivatives exposure through various financial instruments that may include single-name, portfolio, and structured credit derivatives. Additionally, the Firm may sell, assign, or syndicate funded loans and lending commitments to other financial institutions in the primary and secondary loan market.

In connection with its derivative and other contracts and securities financing transaction activities, the Firm generally enters into master netting agreements and collateral arrangements with counterparties. These agreements provide the Firm with the ability to demand collateral, as well as to liquidate collateral and offset receivables and payables covered under the same master netting agreement in the event of a counterparty default. For further information on the impact of netting on the Firm's credit exposures, see "Collateral" in Section 5.4 herein and "Quantitative and Qualitative Disclosures about Market Risk—Risk Management—Credit Risk" in Part II, Item 7A of the 2017 Form 10-K.

Loan Collateral Recognition and Management

Collateralizing loans significantly reduces the credit risk to the Firm. As part of the credit evaluation process, the Credit Risk Management Department assesses the ability of obligors to grant collateral. The Credit Risk Management Department may consider the receipt of collateral as a factor when approving loans, as applicable.

Loans secured by customer margin accounts, a source of credit exposure, are collateralized in accordance with internal and regulatory guidelines. The Firm monitors exposure against required margin levels daily; and pursuant to such guidelines, requires customers to deposit additional collateral or reduce positions, when necessary. Factors considered in the review of margin loans are the amount of the loan, the intended purpose, the degree of leverage being employed in the account, and overall evaluation of the portfolio to ensure proper

diversification or, in the case of concentrated positions, appropriate liquidity of the underlying collateral or potential risk reduction strategies. Additionally, transactions relating to restricted positions require a review of any legal impediments to liquidation of the underlying collateral. Underlying collateral for margin loans is reviewed with respect to the liquidity of the proposed collateral positions, valuation of securities, historic trading range, volatility analysis and an evaluation of industry concentrations.

With respect to first and second mortgage loans, including HELOC loans, a loan evaluation process is adopted within a framework of the credit underwriting policies and collateral valuation. Loan-to-collateral value ratios are determined based on independent third-party property appraisal/valuations, and the security lien position is established through title/ownership reports.

Guarantees and Credit Derivatives

The Firm may accept or request guarantees from related or third parties to mitigate credit risk for wholesale obligors. Such arrangements represent obligations for the guarantor to make payments to the Firm if the counterparty fails to fulfill its obligation under a borrowing arrangement or other contractual obligation. The Firm typically accepts guarantees from corporate entities and financial institutions within its Institutional Securities business segment, and individuals and their small- and medium-sized domestic businesses within its Wealth Management business segment. The Firm may also hedge certain exposures using credit derivatives. The Firm enters into credit derivatives, principally through credit default swaps, under which it receives or provides protection against the risk of default on a set of debt obligations issued by a specified reference entity or entities. A majority of the Firm's hedge counterparties are banks, broker-dealers, insurance, and other financial institutions.

The Firm recognizes certain credit derivatives and third-party guarantees for the reduction of capital requirements under the Advanced Approach. At March 31, 2018, the aggregate EAD amount of the Firm's wholesale exposure hedged by such credit derivatives or third-party guarantees, excluding CVA hedges, was $4,668 million.

6. Equities Not Subject to Market Risk Capital Rule

Overview

The Firm from time to time makes equity investments that may include business facilitation or other investing activities. Such investments are typically strategic investments undertaken by the Firm to facilitate core business activities. The Firm may also make equity investments and capital commitments to public and private companies, funds, and other entities. Additionally, the Firm sponsors and manages investment vehicles and separate accounts for clients seeking exposure to private equity, infrastructure, mezzanine lending, and real estate-related and other alternative investments. The Firm may also invest in and provide capital to such investment vehicles.

Valuation for equity investments not subject to market risk capital rule

The Firm's equity investments include investments in private equity funds, real estate funds, and hedge funds (which include investments made in connection with certain employee deferred compensation plans), as well as direct investments in equity securities, which are recorded at fair value.

The Firm applies the Alternative Modified Look-Through Approach for equity exposures to investment funds. Under this approach, the adjusted carrying value of an equity exposure to an investment fund is assigned on a pro rata basis to different risk weight categories based on the information in the fund's prospectus or related documents. For all other equity exposures, the Firm applies the Simple Risk-Weight Approach ("SRWA"). Under SRWA, the RWA for each equity exposure is calculated by multiplying the adjusted carrying value of the equity exposure by the applicable regulatory prescribed risk weight.

The following table consists of U.S. GAAP amounts disclosed in the Firm's balance sheet of investments and the types and nature of investments, capital requirements by appropriate equity groupings, realized gains/(losses) from sales and liquidations in the reporting period, and total unrealized gains/(losses) on Available for sale ("AFS") equity securities reflected in Accumulated other comprehensive income (loss) ("AOCI"), net of tax, including unrecognized gains/(losses) related to investments carried at cost and unrealized gains/(losses) included in Tier 1 and/or Tier 2 capital.

$ in millions	At March 31, 2018 Total On-balance Sheet[1]	Risk Weight %	RWAs[2]
Type of Equity Investments			
Simple Risk-Weight Approach:			
Exposures in the 0% risk weight category	$ 379	0%	$ -
Exposures in the 20% risk weight category	59	20%	12
Community development equity exposures	1,488	100%	1,586
Non-significant equity exposures	4,327	100%	4,943
Significant investments in unconsolidated financial institutions[3]	3,569	250%	9,393
Publicly traded equity exposures	-	300%	-
Non-publicly traded equity exposures	2	400%	-
Exposures in the 600% risk weight category	715	600%	5,430
Sub-total	$ 10,538	N/A	$ 21,365
Equity exposures to investment funds:			
Alternative Modified Look-Through Approach	1,196	N/A	1,499
Total Equities Not Subject to Market Risk Capital Rule	$ 11,734	N/A	$ 22,864
Quarter-to-date realized gains/(losses) from sales and liquidations[4]			$ 77
Total unrealized gains/(losses) on AFS equity securities reflected in AOCI[4]			-
Unrecognized gains/(losses) related to investments carried at cost[4]			-
Unrealized gains/(losses) included in Tier 1 and/or Tier 2 capital			-

N/A—Not Applicable

1. The total on-balance sheet amount reflects $9,333 million and $2,402 million of non-publicly traded and publicly traded investments, respectively, at March 31, 2018. The on-balance sheet amounts reflect approximate fair value of these exposures and are presented on a U.S. GAAP basis, which include investments in the Firm's own capital instruments and investments in the capital instruments of unconsolidated financial institutions that are subject to capital deductions under U.S. Basel III. At March 31, 2018, the amount of Equities Not Subject to Market Risk Capital Rule that was deducted from Total capital was $221 million, which also includes certain deductions applicable under the Volcker Rule. For a discussion of the Firm's deductions under the Volcker Rule, see "Business—Supervision and Regulation—Financial Holding Company—Activities Restrictions under the Volcker Rule" in Part I, Item 1 of the 2017 Form 10-K. For further information on the Firm's valuation techniques related to investments, see Note 2 (Significant Accounting Policies) to the consolidated financial statements in Part II, Item 8 of the 2017 Form 10-K.
2. In accordance with U.S. Basel III, RWAs reflect a 1.06 multiplier and include both on- and off-balance sheet equity exposures.
3. Under the Advanced Approach, significant investments in unconsolidated financial institutions in the form of common stock, which are not deducted from Common Equity Tier 1, are assigned a 250% risk weight. Between 2014 and 2017, under the transitional rules, a 100% risk weight was applied, and beginning 2018, under fully phased-in rules, a 250% risk weight is applied.
4. For the quarter ended March 31, 2018.

7. Securitization Exposures

A securitization exposure is defined (in line with the U.S. Basel III definition) as a transaction in which:

- All or a portion of the credit risk of the underlying exposures is transferred to third parties, and has been separated into two or more tranches reflecting different levels of seniority;
- The performance of the securitization depends upon the performance of the underlying exposures;
- All or substantially all of the underlying exposures are financial exposures; and
- The underlying exposures are not owned by an operating company or certain other issuers.

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

On-balance sheet exposures include securitization notes purchased and loans made to securitization trusts. Off-balance sheet exposures include liquidity commitments and derivatives (including tranched 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, risk is transferred other than through the use of credit derivatives or guarantees. Typically, 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.

The Firm does not manage or advise entities that invest in securitizations sponsored by the Firm.

Except for (i) the AFS securities portfolios, for which the Firm purchases mostly highly rated tranches of commercial mortgage and other securitizations not sponsored by the Firm, and (ii) warehouse loans and liquidity commitments to client sponsored SPEs, the Firm engages in securitizations primarily as a trading activity.

The Firm retains securities issued in some of the securitization transactions it sponsors, and it purchases securities issued in securitization transactions sponsored by others as part of its trading inventory. These interests are included in the consolidated balance sheets at fair value with mark-to-market changes reported in net income.

For further information on securitization transactions in which the Firm holds any exposure in either the banking book or the trading book, see Note 13 (Variable Interest Entities and Securitization Activities) to the consolidated financial statements in Part II, Item 8 of the 2017 Form 10-K and Note 12 (Variable Interest Entities and Securitization Activities) to the consolidated financial statements in the Form 10-Q.

7.1. Accounting and Valuation

For a discussion of the Firm's accounting and valuation techniques related to securitization, see Note 2 (Significant Accounting Policies), Note 3 (Fair Values) and Note 13 (Variable Interest Entities and Securitization Activities) to the consolidated financial statements in Part II, Item 8 of the 2017 Form 10-K and Note 12 (Variable Interest Entities and Securitization Activities) to the consolidated financial statements in the Form 10-Q.

7.2. Securitization and Resecuritization Exposures in the Banking Book

The following table presents the total outstanding exposures securitized by the Firm as a sponsor for which the Firm has retained credit or counterparty exposures in the banking book as securitizations at March 31, 2018. This excludes securities held in the Firm's trading book and this table is primarily comprised of transactions in which the Firm transferred assets and entered into a derivative transaction with the securitization SPE. For residential mortgage and commercial mortgage transactions, these derivatives are interest rate and/or currency swaps. Traditional securitization exposures reflect unpaid principal balances of the underlying collateral, and synthetic securitization exposures reflect notional amounts.

	At March 31, 2018		
	Traditional		
$ in millions	Amounts Sold by the Firm	Amounts Sold by Third Parties in Transactions Sponsored by the Firm	Synthetic
Exposure type			
Commercial mortgages	$ 347	$ 315	$ -
Residential mortgages	475	-	-
Corporate debt	-	-	-
Asset-backed and other[1]	-	-	-
Total	**$ 822**	**$ 315**	**$ -**

1. Amounts primarily reflect student loans, auto receivables, servicer advance receivables, municipal bonds and credit card receivables.

The following table is presented on a U.S. GAAP basis and reflects a summary of the Firm's securitization activity during 2018, regardless of whether the Firm retained credit or counterparty exposure, including the amount of exposures securitized (by exposure type), and the corresponding recognized gain or loss on sale. This table includes assets transferred by unaffiliated co-depositors into these transactions.

	Three Months Ended March 31, 2018		
$ in millions	Amounts Sold by the Firm[1]	Recognized Gain/(Loss) on Sale	Amounts Sold by Third Parties in Transactions Sponsored by the Firm
Exposure type			
Commercial mortgages	$ 1,011	$ 7	$ 1,739
Residential mortgages	89	-	5
Corporate debt	-	-	-
Asset-backed and other[1]	-	-	-
Total	**$ 1,100**	**$ 7**	**$ 1,744**

1. Amounts represent notional value of assets which the Firm contributed to the securitization.

The following table is presented on a U.S. GAAP basis and reflects a summary of the Firm's securitization activity during 2018, for those transactions in which the Firm has not retained an interest, including the amount of exposures securitized (by exposure type), and the corresponding recognized gain or loss on sale. This table includes assets transferred by unaffiliated co-depositors into these transactions.

	Three Months Ended March 31, 2018		
$ in millions	Amounts Sold by the Firm[1]	Recognized Gain/(Loss) on Sale	Amounts Sold by Third Parties in Transactions Sponsored by the Firm
Exposure type			
Commercial mortgages	$ 160	$ 1	$ 240
Residential mortgages	-	-	-
Corporate debt	-	-	-
Asset-backed and other[1]	-	-	-
Total	**$ 160**	**$ 1**	**$ 240**

1. Amounts represent notional value of assets which the Firm contributed to the securitization.

The following tables include outstanding exposures intended to be securitized, as well as securities held in the Firm's AFS securities portfolios, warehouse loans and liquidity commitments made to securitization entities and transactions in which the Firm entered into derivative transactions with a securitization issuer. The tables do not include securities held in the Firm's trading book. For information on securities held in the Firm's trading book, see "Securitization and Resecuritization Exposures in the Trading Book" in Section 7.3 herein.

The Firm did not recognize credit losses relating to retained senior or subordinate tranches in the banking book. During the quarter ended March 31, 2018, the Firm did not have impaired/past due exposures or losses on securitized assets.

In addition, the Firm may enter into derivative contracts, such as interest rate swaps with securitization SPEs. These derivative transactions generally represent senior obligations of the SPEs, senior to the most senior beneficial interest outstanding in the securitized exposures, and are included in the Firm's consolidated balance sheets primarily at fair value.

The following table is presented on a U.S. GAAP basis and reflects the outstanding exposures intended to be securitized:

$ in millions	At March 31, 2018
Exposure type	
Commercial mortgages	$ 663
Residential mortgages	-
Corporate debt	40
Asset-backed and other	-
Total	**$ 703**

The following table presents the aggregate EAD amount of the Firm's outstanding on- and off-balance sheet securitization positions by exposure type:

	At March 31, 2018		
$ in millions	On-balance sheet	Off-balance sheet	Total
Exposure type			
Commercial mortgages	$ 6,555	$ 1,037	**$ 7,592**
Residential mortgages	653	91	**744**
Corporate debt	3,691	1,604	**5,295**
Asset-backed and other	4,348	3,788	**8,137**
Total	**$ 15,248**	**$ 6,520**	**$ 21,768**

The following tables present the aggregate EAD amount of securitization exposures retained or purchased and the associated RWAs for these exposures, categorized between securitization and re-securitization exposures. In addition, these exposures are further categorized into risk weight bands and by risk-based capital approaches. The Firm employs the Supervisory Formula Approach and the Simplified Supervisory Formula Approach to calculate counterparty credit capital for securitization exposures in the Firm's banking book. The Supervisory Formula Approach uses internal models to calculate the risk weights for securitization exposures. The Simplified Supervisory Formula Approach is a simplified version of the Supervisory Formula Approach under which the risk weights for securitization exposures are determined using supervisory risk weights and other inputs. In those cases where the Firm does not apply either of the Supervisory Formula Approach or the Simplified Supervisory Formula Approach, then the securitization exposures will be assigned to the 1,250% risk weight category.

	At March 31, 2018					
	Securitizations					
	Supervisory Formula Approach		Simplified Supervisory Formula Approach		1,250% Risk Weight Category	
$ in millions	EAD	RWAs	EAD	RWAs	EAD	RWAs
Risk Weight						
0% to <=20%	$ 9,224	$ 1,955	$ 9,169	$ 1,937	$ -	$ -
>20% to <=100%	987	288	372	186	-	-
>100% to <=500%	9	10	1,387	3,853	-	-
>500% to <1250%	-	-	4	38	-	-
1,250%	-	-	-	1	7	96
Total	**$ 10,220**	**$ 2,253**	**$ 10,932**	**$ 6,015**	**$ 7**	**$ 96**

	At March 31, 2018					
	Re-securitizations					
	Supervisory Formula Approach		Simplified Supervisory Formula Approach		1,250% Risk Weight Category	
$ in millions	EAD	RWAs	EAD	RWAs	EAD	RWAs
Risk Weight						
0% to <=20%	$ 550	$ 117	$ -	$ -	$ -	$ -
>20% to <=100%	-	-	2	2	-	-
>100% to <=500%	-	-	-	-	-	-
>500% to <1250%	-	-	46	559	-	-
1250%	-	-	-	-	10	132
Total	**$ 550**	**$ 117**	**$ 48**	**$ 561**	**$ 10**	**$ 132**

At March 31, 2018, the amount of exposures that was deducted from Tier 1 common capital, representing the after-tax gain on sale resulting from securitization was $46 million.

The following table presents the aggregate EAD amount of re-securitization exposures retained or purchased, categorized according to exposures to which credit risk mitigation is applied and those not applied.

$ in millions	At March 31, 2018
Re-securitization exposures:	
Re-securitization exposure to which credit risk mitigation is applied	$ -
Re-securitization exposure to which credit risk mitigation is not applied	608
Total re-securitization exposures retained or purchased	**$ 608**
Total re-securitization exposure to guarantors	$ -
Total re-securitization exposure not to guarantors	608
Total re-securitization exposures retained or purchased	**$ 608**

The credit risk of the Firm's securitizations and re-securitizations is controlled by actively monitoring and managing the associated credit exposures. The Firm evaluates collateral quality, credit subordination levels and structural characteristics of securitization transactions at inception and on an ongoing basis, and manages exposures against internal concentration limits.

7.3. Securitization and Resecuritization Exposures in the Trading Book

The Firm also engages in securitization activities related to commercial and residential mortgage loans, corporate bonds and loans, municipal bonds and other types of financial instruments. The Firm records such activities in the trading book.

The following table presents the Net Market Value of the Firm's aggregate on- and off-balance sheet securitization positions by exposure type, inclusive of hedges, in the trading book:

	At March 31, 2018
$ in millions	Net Market Value[1]
Exposures	
Commercial mortgages	$ 929
Residential mortgages	805
Corporate debt[2]	548
Asset-backed securitizations and other	615
Total	**$ 2,898**

1. Net Market Value represents the fair value for cash instruments and the replacement value for derivative instruments.
2. Amount includes correlation trading positions that are not eligible for Comprehensive Risk Measure ("CRM") surcharge. For more information on CRM, see "Comprehensive Risk Measure" in Section 9.1 included herein.

The Firm closely monitors the price, basis and liquidity risk in the covered securitization and resecuritization positions that are held in the trading book. Each position falls into at least one or more trading limits that have been set to limit the aggregate, concentration and basis risk in the portfolio to acceptable levels. Holdings are monitored against these limits on a daily basis.

The inherent market risk of these positions are captured in various risk measurement models including Regulatory VaR, Regulatory stressed VaR and stress loss scenarios which are calculated and reviewed on a daily basis. Further, the Firm regularly performs additional analysis to comprehend various risks in its securitization and resecuritization portfolio, and changes in these risks. Analysis is performed in accordance with U.S. Basel III to understand structural features of the portfolio and the performance of underlying collateral.

The Firm calculates the standard specific risk regulatory capital for securitization and resecuritization positions under the Simplified Supervisory Formula Approach. Under this approach, a risk weight assigned to each position is calculated based on a prescribed regulatory methodology. The resulting capital charge represents the higher of the total net long or net short capital charge calculated after applicable netting.

In addition, the Firm uses a variety of hedging strategies to mitigate credit spread and default risk for the securitization and resecuritization positions. Hedging decisions are based on

market conditions, and are evaluated within the Firm's risk governance structure.

8. Interest Rate Risk Sensitivity Analysis

The Firm believes that the net interest income sensitivity analysis is an appropriate representation of the Firm's U.S. Bank Subsidiaries' interest rate risk for non-trading activities. For information on the interest rate risk sensitivity analysis, see "Quantitative and Qualitative Disclosures about Market Risk—Risk Management—Market Risk—Non-trading Risks—Interest Rate Risk Sensitivity" in the Form 10-Q.

9. Market Risk

Market risk refers to the risk that a change in the level of one or more market prices, rates, indices, implied volatilities (the price volatility of the underlying instrument imputed from option prices), correlations or other market factors, such as market liquidity, will result in losses for a position or portfolio. Generally, the Firm incurs market risk as a result of trading, investing and client facilitation activities, principally within its Institutional Securities business segment where the substantial majority of the Firm's market risk capital is required. In addition, the Firm incurs trading-related market risk within its Wealth Management business segment. The Firm's Investment Management business segment incurs principally non-trading market risk primarily from investments in real estate funds and private equity vehicles.

The following table presents the Firm's measure for market risk and market risk RWAs in accordance with the Advanced Approach, categorized by component type. RWAs for market risk are computed using either regulator-approved internal models or standardized methods that involve applying risk-weighting factors prescribed by regulators. Pursuant to U.S. Basel III, multiplying the measure for market risk by 12.5 results in market risk RWAs.

	At March 31, 2018	
$ in millions	**Measure for Market Risk**	**RWAs[1]**
Components of measure for market risk and market risk RWAs		
Regulatory VaR[2]	$ 545	$ 6,816
Regulatory stressed VaR[3]	1,975	24,684
Incremental risk charge[3]	879	10,985
Comprehensive risk measure[3, 4]	88	1,104
Specific risk:		
Non-securitizations[5]	1,334	16,681
Securitizations[6]	926	11,574
Total market risk	**$ 5,747**	**$ 71,843**

1. For information on the Firm's market risk RWAs roll-forward from December 31, 2017 to March 31, 2018, see "MD&A—Liquidity and Capital Resources—Regulatory Requirements—Regulatory Capital Requirements" in the Form 10-Q.
2. Per regulatory requirements, the daily average of the previous 60 business days from the period-end date is utilized in the regulatory capital calculation.
3. Per regulatory requirements, the weekly average of the previous 12 weeks from the period-end date is utilized in the regulatory capital calculation.
4. Beginning March 31, 2018, amount represents the greater of the modeled component and the 8% surcharge computed under the Standardized approach. As of the most recent reporting date, RWA from the CRM modeled charge was $452 million and the surcharge was $1,104 million. For more information on CRM, see "Comprehensive Risk Measure" in Section 9.1 included herein.
5. Non-securitization specific risk charges calculated using regulatory-prescribed risk-weighting factors for certain debt and equity positions. The prescribed risk-weighting factors are generally based on, among other things, the Organization for Economic Cooperation and Development's country risk classifications for the relevant home country (in the case of public sector and depository institution debt positions), the remaining contractual maturity and internal assessments of creditworthiness. Additionally, amounts include a De Minimis RWA for positions not captured in the VaR model.
6. For information on market risk related to securitizations, see Section 7.3 "Securitization and Resecuritization Exposures in the Trading Book" included herein.

9.1. Model Methodology, Assumptions and Exposure Measures

Regulatory VaR

The Firm estimates VaR using an internal model based on volatility-adjusted historical simulation for general market risk factors and Monte Carlo simulation for name-specific risk in corporate shares, bonds, loans and related derivatives. The model constructs a distribution of hypothetical daily changes in the value of trading portfolios based on the following: historical observation of daily changes in key market indices or other market risk factors; and information on the sensitivity of the portfolio values to these market risk factor changes. The Firm's VaR model uses four years of historical data with a volatility adjustment to reflect current market conditions.

The Firm utilizes the same VaR model for risk management purposes as well as regulatory capital calculations. The portfolio of positions used for the Firm's VaR for risk management purposes ("Management VaR") differs from that used for regulatory capital requirements ("Regulatory VaR"), as it contains certain positions that are excluded from Regulatory VaR. Examples include counterparty CVAs and loans that are carried at fair value and associated hedges.

For regulatory capital purposes, Regulatory VaR is computed at a 99% level of confidence over a 10-day time horizon. The Firm's Management VaR is computed at a 95% level of confidence over a one-day time horizon, which is a useful indicator of possible trading losses resulting from adverse daily market moves. For more information about the Firm's Management VaR model, related statistics and limit monitoring process, see "Quantitative and Qualitative Disclosures about Market Risk—Risk Management—Market Risk" in Part II, Item 7A of the 2017 Form 10-K and the "Quantitative and Qualitative Disclosures about Market Risk – Risk Management – Market Risk" in the Form 10-Q.

The following table presents the period-end, daily average, and high and low Regulatory VaR by risk category for a 10-day holding period for the quarter ended March 31, 2018. Additionally, the daily average Regulatory VaR for a one-day holding period is shown for comparison. The metrics below are calculated over the calendar quarter and therefore may not coincide with the period applied in the regulatory capital calculations.

99% Regulatory VaR
Quarter Ended March 31, 2018

	One-Day Holding Period	10-Day Holding Period			
$ in millions	Daily Average[1]	Period End	Daily Average[1]	High	Low
Interest rate	$ 33	$ 113	$ 104	$ 140	$ 81
Credit spread	36	110	113	143	89
Equity price	20	71	65	78	47
Foreign exchange rate	15	56	48	80	32
Commodity price	12	46	38	55	27
Less: Diversification benefit[2, 3]	(59)	(191)	(187)	N/A	N/A
Total Regulatory VaR	**$ 57**	**$ 204**	**$ 181**	$ 211	$ 155

N/A–Not Applicable

1. The daily average shown is calculated over the entire quarter. Per regulatory requirements, the daily average of the previous 60 business days from the period-end date is utilized in the regulatory capital calculation.
2. Diversification benefit equals the difference between the total Regulatory VaR and the sum of the component VaRs. This benefit arises because the simulated one-day losses for each of the components occur on different days; similar diversification benefits also are taken into account within each component.
3. The high and low VaR values for the total Regulatory VaR and each of the component VaRs might have occurred on different days during the quarter, and therefore the diversification benefit is not an applicable measure.

Regulatory Stressed VaR

Regulatory stressed VaR is calculated using the same methodology and portfolio composition as Regulatory VaR. However, Regulatory stressed VaR is based on a continuous one-year historical period of significant market stress, appropriate to the Firm's portfolio. The Firm's selection of the one-year stressed window is evaluated on an ongoing basis.

The following table presents the period-end, weekly average, and high and low Regulatory stressed VaR for a 10-day holding period for the quarter ended March 31, 2018. Additionally, the weekly average Regulatory stressed VaR for a one-day holding period is shown for comparison. The metrics below are calculated over the calendar quarter and therefore may not coincide with the period applied in the regulatory capital calculations.

99% Regulatory Stressed VaR
Quarter Ended March 31, 2018

	One-Day Holding Period	10-Day Holding Period			
$ in millions	Weekly Average[1]	Period End	Weekly Average[1]	High	Low
Total Regulatory stressed VaR	$ 207	$ 464	$ 655	$ 950	$ 436

1. The weekly average shown is calculated over the entire quarter. Per regulatory requirements, the weekly average of the previous 12 weeks from the period-end date is utilized in the regulatory capital calculation.

Incremental Risk Charge

The Incremental Risk Charge ("IRC") is an estimate of default and migration risk of unsecuritized credit products in the trading book. The IRC also captures recovery risk, and assumes that average recoveries are lower when default rates are higher. A Monte Carlo simulation-based model is used to calculate the IRC at a 99.9% level of confidence over a one-year time horizon. A constant level of risk assumption is imposed which ensures that all positions in the IRC portfolio are evaluated over the full one-year time horizon.

The IRC model differentiates the underlying traded instruments by liquidity horizons, with the minimum liquidity horizon set to 3 months. Lower rated issuers receive longer liquidity horizons of between 6 and 12 months. In addition to the ratings-based liquidity horizon, the Firm also applies liquidity horizon penalties to positions that are deemed concentrated.

The following table presents the period-end, weekly average, and high and low IRC for the quarter ended March 31, 2018. The metrics below are calculated over the calendar quarter and therefore may not coincide with the period applied in the regulatory capital calculations.

	Quarter Ended March 31, 2018			
$ in millions	Period End	Weekly Average[1]	High	Low
Total Incremental Risk Charge	$ 879	$ 828	$ 1,011	$ 675

1. The weekly average shown is calculated over the entire quarter. Per regulatory requirements, the weekly average of the previous 12 weeks from the period-end date is utilized in the regulatory capital calculation.

Comprehensive Risk Measure

CRM is an estimate of risk in the correlation trading portfolio, taking into account credit spread, correlation, basis, recovery and default risks. A Monte Carlo simulation-based model is used to calculate the CRM at a 99.9% level of confidence over a one-year time horizon, applying the constant level of risk assumption.

All positions in the CRM portfolio are given a liquidity horizon of 6 months.

Positions eligible for CRM are also subject to an 8% capital surcharge, which is reflected in "Comprehensive risk measure" in the "Components of measure for market risk and market risk RWAs" table in Section 9 herein.

Correlation Trading Positions

A correlation trading position is a securitization position for which all or substantially all of the value of the underlying exposure is based on the credit quality of a single company for which a two-way market exists, or on commonly traded indices based on such exposures for which a two-way market exists on the indices. Hedges of correlation trading positions are also considered correlation trading positions. For the quarter ended March 31, 2018, the Firm's aggregate CRM eligible correlation trading positions had a Net Market Value of $204 million, which is comprised of net long market values of $135 million and net short market values of $69 million. The net long and net short market values are inclusive of netting permitted under U.S. Basel III.

The following table presents the period-end, weekly average, and high and low CRM for the quarter ended March 31, 2018. The metrics below are calculated over the calendar quarter and therefore may not coincide with the period applied in the regulatory capital calculations.

	Quarter Ended March 31, 2018			
$ in millions	Period End	Weekly Average[1]	High[2]	Low[2]
Comprehensive Risk Measure Modeled	$ 53	$ 38	$ 65	$ 16
Comprehensive Risk Measure Surcharge	86	89	93	86

1. The weekly average shown is calculated over the entire quarter. Per regulatory requirements, the weekly average of the previous 12 weeks from the period-end date is utilized in the regulatory capital calculation.
2. Beginning March 31, 2018, CRM is the greater of the modeled component and the 8% surcharge computed under the Standardized approach.

9.2. Model Limitations

The Firm uses VaR and Stressed VaR as components in a range of risk management tools. Among their benefits, VaR models permit estimation of a portfolio's aggregate market risk exposure, incorporating a range of varied market risks and portfolio assets. However, VaR has various limitations, which include, but are not limited to: use of historical changes in market risk factors, which may not be accurate predictors of future market conditions, and may not fully incorporate the risk of extreme market events that are outsized relative to observed historical market behavior or reflect the historical distribution of results beyond the 99% confidence interval; and reporting of losses over a defined time horizon, which does not reflect the risk of positions that cannot be liquidated or hedged over that defined horizon.

The Firm also uses IRC and CRM models to measure default and migration risk of credit spread and correlation trading positions in the trading book. Among their benefits, these models permit estimation of a portfolio's aggregate exposure to default and migration risk, incorporating a range of market risk factors in a period of financial stress. However, the IRC and CRM models have various limitations, which include, but are not limited to: use of historical default rates, credit spread movements, correlation and recovery rates, which may not be accurate predictors of future credit environments, and may not fully incorporate the risk of extreme credit events that are outsized relative to observed historical behavior or reflect the historical distribution of results beyond the 99.9% confidence interval.

Regulatory VaR, Regulatory stressed VaR, IRC and CRM numbers are not readily comparable across firms because of differences in the firms' portfolios, modeling assumptions and methodologies. In IRC and CRM, those differences may be particularly pronounced because of the long risk horizon measured by these models as well as the difficulty in performing backtesting. These differences can result in materially different numbers across firms for similar portfolios. As a result, the model-based numbers tend to be more useful when interpreted as indicators of trends in a firm's risk profile rather than as an absolute measure of risk to be compared across firms.

9.3. Model Validation

The Firm validates its Regulatory VaR model, Regulatory stressed VaR model, IRC model and CRM model on an ongoing basis. The Firm's model validation process is independent of the internal models' development, implementation and operation. The validation process includes, among other things, an evaluation of the conceptual soundness of the internal models.

The Firm's Regulatory VaR model, Regulatory stressed VaR model, IRC model and CRM model have all been approved for use by the Firm's regulators.

9.4. Regulatory VaR Backtesting

One method of evaluating the reasonableness of the Firm's VaR model as a measure of the Firm's potential volatility of net revenue is to compare the VaR with the hypothetical buy-and-hold trading revenue. Assuming no intra-day trading, for a 99%/one-day VaR, the expected number of times that trading losses should exceed VaR during the year is two to three times, and, in general, if trading losses were to exceed VaR more than ten times in a year, the adequacy of the VaR model would be questioned. For days where losses exceed the VaR statistic, the Firm examines the drivers of trading losses to evaluate the VaR model's accuracy relative to realized trading results.

The Firm regularly conducts a comparison of its VaR-based estimates with buy-and-hold gains or losses experienced ("backtesting"). The buy-and-hold gains or losses are defined in the U.S. Basel III as profits or losses on covered positions, as defined in Section 9.5 below, excluding fees, commissions, reserves, net interest income and intraday trading. The buy-and-hold gains or losses utilized for Regulatory VaR backtesting differs from the daily net trading revenue as disclosed in "Quantitative and Qualitative Disclosures about Market Risk—Risk Management—Market Risk" in the Form 10-Q. The Firm had no Regulatory VaR backtesting exception during the quarter ended March 31, 2018.

9.5. Covered Positions

During the quarter ended March 31, 2018, the Firm had exposures to a wide range of interest rates, credit spread, equity prices, foreign exchange rates and commodity prices—and the associated implied volatilities and spreads—related to the global markets in which it conducts its trading activities. For more information about such exposures, see "Quantitative and Qualitative Disclosures about Market Risk—Risk Management—Market Risk—Sales and Trading and Related Activities" in Part II, Item 7A of the 2017 Form 10-K.

Under U.S. Basel III, covered positions include trading assets or liabilities held by the Firm for the purpose of short-term resale or with the intent of benefiting from actual or expected price movements related to its market-making activities, as well as, foreign exchange and commodity exposure of certain banking book positions. CVA is not a covered position under U.S. Basel III and as a result, hedges to the non-covered CVA are themselves not eligible to be covered positions. However, any foreign exchange or commodity exposure of CVA hedges is a covered position.

The Firm manages its covered positions by employing a variety of risk mitigation strategies. These strategies include diversification of risk exposures and hedging. Hedging activities consist of the purchase or sale of positions in related securities and financial instruments, including a variety of derivative products (*e.g.*, futures, forwards, swaps and options). Hedging activities may not always provide effective mitigation against trading losses due to differences in the terms, specific characteristics or other basis risks that may exist between the hedge instrument and the risk exposure that is being hedged. The Firm manages the market risk associated with its trading activities on a Firm-wide basis, on a world-wide trading division level and on an individual product basis. The Firm manages and monitors its market risk exposures in such a way as to maintain a portfolio that the Firm believes is well-diversified in the aggregate with respect to market risk factors and that reflects the Firm's aggregate risk tolerance as established by the Firm's senior management.

Valuation Policies, Procedures, and Methodologies for Covered Positions

For more information on the Firm's valuation policies, procedures, and methodologies for covered positions (trading assets and trading liabilities), see Note 2 (Significant Accounting Policies) and Note 3 (Fair Values) to the consolidated financial statements in Part II, Item 8 of the 2017 Form 10-K.

9.6. Stress Testing of Covered Positions

The Firm stress tests the market risk of its covered positions at a frequency appropriate to each portfolio and in no case less frequently than quarterly. The stress tests take into account concentration risk, illiquidity under stressed market conditions and other risks arising from the Firm's trading activities.

In addition, the Firm utilizes a proprietary economic stress testing methodology that comprehensively measures the Firm's market and credit risk. The methodology simulates many stress scenarios based on more than 25 years of historical data and attempts to capture the different liquidities of various types of general and specific risks. Event and default risks for relevant credit portfolios are also captured.

Furthermore, as part of the Federal Reserve's annual Comprehensive Capital Analysis and Review, commonly referred to as "CCAR," the Firm is required to perform annual capital stress testing under scenarios prescribed by the Federal Reserve. The stress testing results are submitted to the Federal Reserve and a summary of the results under the severely adverse economic scenario is publicly disclosed. For more information on the Firm's capital plans and stress tests, see "MD&A—Liquidity and Capital Resources—Regulatory Requirements" in Part II, Item 7 of the 2017 Form 10-K and "MD&A – Liquidity and Capital Resources – Regulatory Requirements" in the Form 10-Q.

10. Operational Risk

As defined by U.S. Basel III, operational risk is the risk of loss resulting from inadequate or failed internal processes, people, and systems or from external events (including legal risk but excluding strategic and reputational risk). The Firm may incur operational risk across the full scope of its business activities, including revenue-generating activities (*e.g.*, sales and trading) and support and control groups (*e.g.*, information technology and trade processing). On December 7, 2017, the Basel Committee on Banking Supervision updated its proposal for calculating operational risk regulatory capital. Under the proposal, which would eliminate the use of an internal model-based approach, required levels of operational risk regulatory capital would generally be determined under a standardized approach based primarily on a financial statement-based measure of operational risk exposure and adjustments based on the particular institution's historic operational loss record. The Firm is evaluating the potential impact of the proposal, which is subject to further rulemaking procedures. For a further discussion of the Firm's operational risk, see "Quantitative and Qualitative Disclosures about Market Risk—Risk Management—Operational Risk" in Part II, Item 7A of the 2017 Form 10-K and "Quantitative and Qualitative Disclosures about Market Risk – Risk Management – Operational Risk" in the Form 10-Q.

As an advanced approach banking organization, the Firm is required to compute operational risk RWAs using an advanced measurement approach. The Firm has established an operational risk framework to identify, measure, monitor, and control risk across the Firm. Effective operational risk management is essential to reducing the impact of operational risk incidents and mitigating legal risks. The framework is continually evolving to account for changes in the Firm and to respond to the changing regulatory and business environment. The Firm has implemented operational risk data and assessment systems to monitor and analyze internal and external operational risk events, to assess business environment and internal control factors, and to perform scenario analysis. The collected data elements are incorporated in the operational risk capital model. The model encompasses both quantitative and qualitative elements. Internal loss data and scenario analysis results are direct inputs to the capital models, while external operational risk incidents and business environment and internal control factors are evaluated as part of the scenario analysis process. The Firm maintains governance, review, and validation processes of its advanced measurement approach framework.

The Firm uses the Loss Distribution Approach to model operational risk exposures. In this approach, loss frequency and severity distributions are separately modeled using the Firm's internal loss data experience and combined to produce an Aggregate Loss Distribution at various confidence levels over a one-year period. Regulatory Operational Risk capital is calculated at the 99.9% confidence level. The model also includes Scenario Analysis estimates to complement the Internal Loss Data model. Scenario Analysis is a forward-looking systematic process to obtain plausible high severity and low frequency estimates of operational risk losses based on expert opinion. This modeling process is performed separately on each of the units of measure. The results are aggregated across all units of measure, taking into account diversification, to determine operational risk regulatory capital.

In addition, the Firm employs a variety of risk processes and mitigants to manage its operational risk exposures. These include a strong governance framework, a comprehensive risk management program and insurance. The Firm continually undertakes measures to improve infrastructure and mitigate operational risk. The goal of the Firm's operational risk management framework is to identify and assess significant operational risks, and to ensure that appropriate mitigation

actions are undertaken. Operational risks and associated risk exposures are assessed relative to the risk tolerance established by the Firm's Board of Directors and are prioritized accordingly. The breadth and range of operational risk are such that the types of mitigating activities are wide-ranging. Examples of activities include the enhancing defenses against cyberattacks, use of legal agreements and contracts to transfer and/or limit operational risk exposures; due diligence; implementation of enhanced policies and procedures; exception management processing controls; and segregation of duties.

See "Capital Adequacy" in Section 4 herein for the Firm's operational risk RWAs at March 31, 2018.

11. Supplementary Leverage Ratio

The Supplementary Leverage Ratio ("SLR") became effective as a capital standard on January 1, 2018. We are required to maintain a Tier 1 supplementary leverage ratio of 3% as well as an enhanced SLR capital buffer of at least 2% (for a total of at least 5%) in order to avoid limitations on capital distributions, including dividends and stock repurchases, and discretionary bonus payments to executive officers. In addition, our U.S. Bank Subsidiaries must maintain an SLR of 6% to be considered well-capitalized. In addition to the SLR, the Firm is also subject to a Tier 1 leverage ratio capital standard that is currently in effect.

The Tier 1 leverage ratio and SLR are capital measures that are both computed under U.S. Basel III rules, with the primary difference between the two being that the SLR denominator includes off-balance sheet exposures. The SLR denominator is calculated for each reporting period based on the average daily balance of consolidated on-balance sheet assets under U.S. GAAP during the calendar quarter less certain amounts deducted from Tier 1 capital at quarter-end. The SLR denominator also includes the arithmetic mean of month-end balances during the calendar quarter of certain off-balance sheet exposures associated with derivatives (including derivatives that are centrally cleared for clients and sold credit protection), repo-style transactions and other off-balance sheet items. For more information on the supplementary leverage ratio, see "MD&A—Liquidity and Capital Resources—Regulatory Requirements—Supplementary Leverage Ratio" in the Form 10-Q.

Summary comparison of accounting assets and supplementary leverage ratio

The following table presents the consolidated total assets under U.S. GAAP and the supplementary leverage exposure.

$ in millions		At March 31, 2018
Total consolidated assets as reported in published financial statements[1]	$	858,495
Adjustment for investments in banking, financial, insurance or commercial entities that are consolidated for accounting purposes but outside the scope of regulatory consolidation		-
Adjustment for fiduciary assets recognized on balance sheet but excluded from total leverage exposure		-
Adjustment for derivative exposures[2]		162,334
Adjustment for repo-style transactions[2]		17,631
Adjustment for off-balance sheet exposures[2]		64,685
Other adjustments		
a. Adjustments for deductions from tier 1 capital[3]		(9,870)
b. Adjustments for frequency calculations[4]		(1,757)
Supplementary leverage exposure	**$**	**1,091,518**

1. Total consolidated on-balance sheet assets under U.S. GAAP at quarter end.
2. Computed as the arithmetic mean of the month-end balances over the calendar quarter.
3. Reflects adjustments to Tier 1 capital, including disallowed goodwill, intangible assets, certain deferred tax assets and certain investments in the capital instruments of unconsolidated financial institutions.
4. Reflects the difference between spot and average daily balance of consolidated total assets under U.S. GAAP during the calendar quarter.

Supplementary leverage ratio: The following table presents the Firm's Tier 1 leverage ratio, as well as the detailed components of the SLR computation, under U.S. Basel III fully phased-in rules.

$ in millions		At March 31, 2018
On-balance sheet exposures		
On-balance sheet assets (excluding on-balance sheet assets for repo-style transactions and derivative exposures, but including cash collateral received in derivative transactions)[1]	$	611,516
Less: Amounts deducted from tier 1 capital[2]		(9,870)
Total on-balance sheet exposures (excluding on-balance sheet assets for repo style transactions and derivatives exposures, but including cash collateral received in derivative transactions)		601,646
Derivative disclosures		
Replacement cost for derivative exposures (net of cash variation margin)[1]	$	33,466
Add-on amounts for potential future exposure (PFE) for derivatives[3]		152,892
Gross-up for cash collateral posted if deducted from the on-balance sheet assets, except for cash variation margin that meets qualifying criteria[3]		-
Less: Deductions of receivable assets for cash variation margin posted in derivative transactions, if included in on-balance sheet assets		-
Less: Exempted CCP leg of client-cleared transactions[4]		-
Effective notional principal amount of sold credit protection[3]		275,206
Less: Effective notional principal amount offsets and PFE adjustments for sold credit protection[3]		(265,764)
Total derivatives exposures	$	195,800
Repo-style transactions		
On-balance sheet assets for repo-style transactions, including the gross value of receivables for reverse repurchase transactions and the value of securities that qualified for sales treatment, and excluding the value of securities received in a security-for-security repo-style transaction where the securities lender has not sold or re-hypothecated the securities received[1]	$	325,448
Less: Reduction of the gross value of receivables in reverse repurchase transactions by cash payables in repurchase transactions under netting agreements[1]		(113,692)
Counterparty credit risk for all repo-style transactions[3]		17,631
Exposure for repo-style transactions where a banking organization acts as an agent		-
Total repo-style transactions	$	229,387
Other off-balance sheet exposures		
Off-balance sheet exposures at gross notional amounts[3, 5]	$	152,758
Less: Adjustments for conversion to credit equivalent amounts[3]		(88,073)
Total off-balance sheet exposures	$	64,685
Supplementary leverage exposure	**$**	**1,091,518**
Tier 1 capital[6]		69,213
Supplementary leverage ratio[7]		6.3%
Tier 1 leverage ratio[8]		8.2%

1. Computed as the average daily balance of consolidated total assets under U.S. GAAP during the calendar quarter.
2. Reflects adjustments to Tier 1 capital, including disallowed goodwill, intangible assets, certain deferred tax assets, certain investments in the capital instrument of unconsolidated financial institutions and other adjustments.
3. Computed as the arithmetic mean of the month-end balances over the calendar quarter.
4. In accordance with U.S. GAAP, the Central Counterparty (CCP)-facing leg of client-cleared transactions is not included in on-balance sheet asset; therefore, an adjustment is not required under the SLR rules.
5. Off-balance sheet exposures primarily include lending commitments, forward starting reverse repurchase agreements, standby letters of credit and other unfunded commitments and guarantees.
6. Amount represents Tier 1 capital calculated under U.S. Basel III fully phased-in rules.
7. The Supplementary leverage ratio equals Tier 1 capital (calculated under U.S. Basel III rules) divided by the Supplementary leverage exposure.
8. The Tier 1 leverage ratio equals Tier 1 capital (calculated under U.S. Basel III rules) divided by the average daily balance of consolidated on-balance sheet assets under U.S. GAAP during the calendar quarter, adjusted for disallowed goodwill, intangible assets, certain deferred tax assets, certain investments in the capital instruments of unconsolidated financial institutions and other adjustments in accordance with U.S. Basel III rules.

12. Disclosure Map

		For the quarterly period ended March 31, 2018	
Disclosure starts on page number	**Description**	**Form 10-Q**	**Pillar 3 Report**
Basel III Pillar 3 Requirement			
Scope of Application	Business		1
	Regulatory capital framework	20	1
Capital Structure	Capital instruments	20,68,78	2
	Restrictions and other major impediments to transfer of funds or capital		2
	Capital structure	20	2
Capital Adequacy	Required capital framework	20	2
	Credit risk, market risk and operational risk RWAs	23	3
	Risk management objectives, structure and policies		3
	Transitional provisions for minimum risk-based capital ratio	21	4
Credit Risk	Credit risk and credit risk management framework	31	4
	Risk governance structure		4
	Master netting agreements and collateral agreements	57,64	6
	Commitments	68	6
	Guarantees	68	6
	Reconciliation of changes in allowance for loan losses	67	7
	Credit quality indicator	66	7
	Determination of past due or delinquency status		7
	Identification of impaired loans for financial accounting purposes		7
General Disclosure for Wholesale Counterparty Credit Risk of Derivative Contracts, Repo-Style Transactions and Margin Lending	Use of collateral as a credit risk mitigants and master netting agreements	57,64	10
	Valuation approaches		10
	Credit derivatives	60	11
	Additional collateral requirements due to credit rating downgrade	59	12
Credit Risk Mitigation	Impact of netting on the Firm's credit exposures	35	12
Equities Not Subject to Market Risk Capital Rule	Valuation techniques related to investments		14
	Deductions under the Volcker Rule		14
Securitization	Securitization transactions	72	14
	Accounting and valuation techniques related to securitization	72	15
Interest Rate Risk for Non-Trading Activities	Interest rate risk sensitivity analysis on non-trading activities	31	18
Market Risk	Market risk RWAs	23	18
	Management VaR model, related statistics and limit monitoring process	29	19
	Daily net trading revenues	30	21
	Primary market risk exposures and market risk management	29	21
	Valuation policies, procedures and methodologies for covered positions		22
	Stress testing and Regulatory Stressed VaR	24	22
Operational Risk	Operational Risk	38	22
Supplementary Leverage Ratio	Supplementary Leverage Ratio	24	23