JPMorgan Chase & Co.

PILLAR 3 REGULATORY CAPITAL DISCLOSURES

For the quarterly period ended December 31, 2020

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JPMorgan Chase & Co. (“JPMorgan Chase” or the “Firm”) a financial holding company incorporated under Delaware law in 1968, is a leading financial services firm based in the United States of America (“U.S.”), and has operations worldwide; JPMorgan Chase had $3.4 trillion in assets and $279.4 billion in stockholders’ equity as of December 31, 2020.The Firm is a leader in investment banking, financial services for consumers and small businesses, commercial banking, financial transaction processing and asset management. Under the J.P. Morgan and Chase brands, the Firm serves millions of customers in the U.S. and many of the world’s most prominent corporate, institutional and government clients.

JPMorgan Chase’s principal bank subsidiary is JPMorgan Chase Bank, National Association (“JPMorgan Chase Bank, N.A.”), a national banking association with U.S. branches in 38 states and Washington, D.C. as of December 31, 2020. JPMorgan Chase’s principal non-bank subsidiary is J.P. Morgan Securities LLC (“J.P. Morgan Securities”), a U.S. broker-dealer. The bank and non-bank subsidiaries of JPMorgan Chase operate nationally as well as through overseas branches and subsidiaries, representative offices and subsidiary foreign banks. The Firm’s principal operating subsidiary outside the U.S. is J.P. Morgan Securities plc, a U.K.-based subsidiary of JPMorgan Chase Bank, N.A.

- For additional information, refer to the Supervision and Regulation section on pages 3-7 of the JPMorgan Chase's Annual Report on Form 10-K for the year ended December 31, 2020 ("2020 Form 10-K ")

Pillar 3 report overview

This report provides information on the Firm’s capital structure, capital adequacy, risk exposures, and risk-weighted assets (“RWA”) under the Basel III advanced approach, except where explicitly noted. This report describes the internal models used to translate risk exposures into required capital.

This report should be read in conjunction with the 2020 Form 10-K which has been filed with the U.S. Securities and Exchange Commission (“SEC”).

Basel III overview

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

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

The capital rules under Basel III establish minimum capital ratios and overall capital adequacy standards for large and internationally active U.S. Bank Holding Companies ("BHCs") and banks, including the Firm and its insured depository institution ("IDI") subsidiaries, including JPMorgan Chase Bank, N.A. The minimum amount of regulatory capital that must be held by BHCs and banks is determined by calculating risk-weighted assets (“RWA”), which are on-balance sheet assets and off-balance sheet exposures, weighted according to risk. Two comprehensive approaches are prescribed for calculating RWA: a standardized approach (“Basel III Standardized”), and an advanced approach (“Basel III Advanced”). For each of the risk-based capital ratios, the capital adequacy of the Firm is evaluated against the lower of the Standardized or Advanced approaches compared to their respective minimum capital ratios

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

- Refer to page 3 of the 2020 Form 10-K for information on Basel III Reforms.

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

The Firm believes that effective risk management requires, among other things:

- Acceptance of responsibility, including identification and escalation of risks by all individuals within the Firm;
- Ownership of risk identification, assessment, data and management within each of the LOBs and Corporate; and
- Firmwide structures for risk governance.

The Firm follows a disciplined and balanced compensation framework with strong internal governance and independent oversight by the Board of Directors (the "Board"). The impact of risk and control issues is carefully considered in the Firm's performance evaluation and incentive compensation processes.

Risk governance and oversight framework

The Firm's risk management governance and oversight framework involves understanding drivers of risks, types of risks, and impacts of risks.

Drivers of Risks are factors that cause a risk to exist. Drivers of risks include the economic environment, regulatory and government policy, competitor and market evolution, business decisions, process and judgment error, deliberate wrongdoing, dysfunctional markets, and natural disasters.

Types of Risks are categories by which risks manifest themselves. Risks are generally categorized in the following four risk types:

- Strategic risk is the risk to earnings, capital, liquidity or reputation associated with poorly designed or failed business plans or inadequate response to changes in the operating environment.
- Credit and investment risk is the risk associated with the default or change in credit profile of a client, counterparty or customer; or loss of principal or a reduction in expected returns on investments, including consumer credit risk, wholesale credit risk, and investment portfolio risk.
- Market risk is the risk associated with the effect of changes in market factors, such as interest and foreign exchange rates, equity and commodity prices, credit spreads or implied volatilities, on the value of assets and liabilities held for both the short and long term.
- Operational risk is the risk associated with an adverse outcome resulting from inadequate or failed internal processes or systems; human factors; or external events impacting the Firm's processes or systems; it includes compliance, conduct, legal, and estimations and model risk.

Impacts of Risks are consequences of risks, both quantitative and qualitative. There may be many consequences of risks manifesting, including quantitative impacts such as a reduction in earnings and capital, liquidity outflows, and fines or penalties, or qualitative impacts such as reputation damage, loss of clients and customers, and regulatory and enforcement actions.

The Firm's risk governance and oversight framework is managed on a Firmwide basis. The Firm has an Independent Risk Management ("IRM") function, which consists of the Risk Management and Compliance organizations. The Chief Executive Officer ("CEO") appoints, subject to approval by the Risk Committee of the Board ("Board Risk Committee"), the Firm's Chief Risk Officer ("CRO") to lead the IRM organization and manage the risk governance structure of the Firm. The framework is subject to approval by the Board Risk Committee in the form of the Risk Governance and Oversight Policy. The Firm's CRO oversees and delegates authorities to LOB CROs, Firmwide Risk Executives ("FREs"), and the Firm's Chief Compliance Officer ("CCO"), who each establish Risk Management and Compliance organizations, set the Firm's risk governance policies and standards, and define and oversee the implementation of the Firm's risk governance. The LOB CROs are responsible for risks that arise in their LOBs, while FREs oversee risk areas that span across the individual LOBs, functions and regions.

Three lines of defense

The Firm relies upon each of its LOBs and Corporate areas giving rise to risk to operate within the parameters identified by the IRM function, and within its own management-identified risk and control standards. Each LOB and Treasury & CIO, including their aligned Operations, Technology and Control Management, are the Firm's "first line of defense" and own the identification of risks, as well as the design and execution of controls to manage those risks. The first line of defense is responsible for adherence to applicable laws, rules and regulations and for the implementation of the risk management structure (which may include policy, standards, limits, thresholds and controls) established by IRM.

The IRM function is independent of the businesses and is the Firm's "second line of defense." The IRM function independently assesses and challenges the first line of defense risk management practices. IRM is also responsible for its own adherence to applicable laws, rules and regulations and for the implementation of policies and standards established by IRM with respect to its own processes.

Internal Audit is an independent function that provides objective assessment on the adequacy and effectiveness of Firmwide processes, controls, governance and risk management as the "third line of defense." The Internal Audit Function is headed by the General Auditor, who reports to the Audit Committee and administratively to the CEO.

In addition, there are other functions that contribute to the Firmwide control environment but are not considered part of a particular line of defense, including Finance, Human Resources and Legal.

Risk identification and ownership

Each LOB and Corporate area owns the ongoing identification of risks, as well as the design and execution of controls, inclusive of IRM-specified controls, to manage those risks. To support this activity, the Firm has a formal Risk Identification framework designed to facilitate their responsibility to identify material risks inherent to the Firm, catalog them in a central repository and review the most material risks on a regular basis. The IRM function reviews and challenges the LOB and Corporate's identified risks, maintains the central repository and provides the consolidated Firmwide results to the Firmwide Risk Committee ("FRC") and Board Risk Committee.

Risk appetite

The Firm's overall appetite for risk is governed by a "Risk Appetite" framework. The framework and the Firm's risk appetite are set and approved by the Firm's CEO, Chief Financial Officer ("CFO") and CRO. Quantitative parameters and qualitative factors are used to monitor and measure the Firm's capacity to take risk consistent with its stated risk appetite. Qualitative factors have been established to assess select operational risks, and impact to the Firm's reputation. Risk Appetite results are reported to the Board Risk Committee.

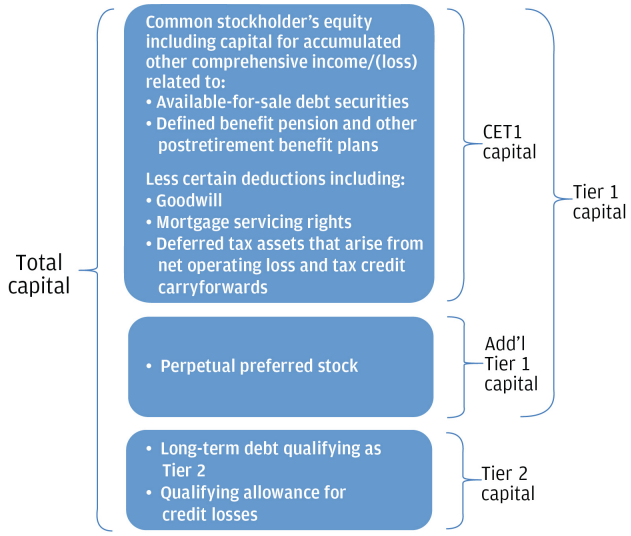
➢ Refer to pages 85-89 of the 2020 Form 10-K for additional information on Firmwide Risk Management.

Estimations and Model Risk Management

As stated on page 2 under 'Pillar 3 report overview', internal models are used to translate risk exposures into required capital. A dedicated independent function, Model Risk Governance and Review ("MRGR"), reviews and approves new models, as well as material changes to existing models.

➢ Refer to page 151 of the 2020 Form 10-K for information on Estimations and Model Risk Management.

The three components of regulatory capital under the Basel III advanced rules are illustrated below:



Capital management

- Refer to Regulatory Developments relating to the COVID-19 Pandemic on pages 52-53 and the Capital Risk Management section on pages 91-101 of the 2020 Form 10-K for information on COVID-19 pandemic related U.S. government actions, facilities, and programs.
- Refer to Note 27 - Regulatory Capital on pages 281-282 of the 2020 Form 10-K for additional information on Current Expected Credit Losses ("CECL") impacting the Firm and it's capital metrics.

Components of capital

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

- Refer to the Consolidated balance sheets on page 164 of the 2020 Form 10-K for the components of total stockholders' equity.

December 31, 2020 (in millions)	Basel III Advanced CECL Transitional	Basel III Advanced CECL Fully Phased-In
Total stockholders' equity	**$ 279,354**	**$ 279,354**
Less: Preferred stock	30,063	30,063
Common stockholders' equity	**249,291**	**249,291**
Less:		
Goodwill	49,248	49,248
Other intangible assets	904	904
Other CET1 capital adjustments[(a)(b)]	(3,486)	2,235
Add:		
Deferred tax liabilities[(c)]	2,453	2,453
CET1 capital	**205,078**	**199,357**
Preferred stock	30,063	30,063
Other Tier 1 capital adjustments	–	–
Less: Tier 1 capital deductions	297	297
Total Tier 1 capital	**234,844**	**229,123**
Long-term debt and other instruments qualifying as Tier 2 capital	16,645	16,645
Qualifying allowance for credit losses[(d)]	5,677	5,677
Other Tier 2 capital adjustments	115	117
Less: Tier 2 capital deductions	53	53
Total Tier 2 capital	**22,384**	**22,386**
Total capital	**$ 257,228**	**$ 251,509**

(a) Includes adjustments for cash flow hedges and debit valuation adjustments ("DVA ") related to structured notes recorded in accumulated other comprehensive income ("AOCI").

(b) The impact of the CECL capital transition provision was an increase in CET1 capital of $5.7 billion.

(a) Represents deferred tax liabilities related to tax-deductible goodwill and to identifiable intangibles created in nontaxable transactions, which are netted against goodwill and other intangibles when calculating CET1 capital.

(b) Represents qualifying eligible credit reserves that exceed expected credit losses, up to a maximum of 0.6% of credit RWA, with any excess deducted from RWA. The amount deducted from RWA as of December 31, 2020 for Basel III Advanced CECL Transitional was $10.5 billion and would have been $13.2 billion under Basel III Advanced CECL fully phased in.

Terms of capital instruments

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

- Refer to Note 20 on page 269, Note 21 on page 271 and Note 22 on page 273 of the 2020 Form 10-K for additional information on subordinated debt, preferred stock and common stock.
- Refer to the Supervision and Regulation section in Part 1, Item 1 on pages 3–7 of the 2020 Form 10-K.

Restrictions on capital and transfer of funds

Regulations govern the amount of distributions the Firm and its banking subsidiaries could pay without the prior approval of their relevant banking regulators. Certain of the Firm's cash and other assets are restricted as to withdrawal or usage. These restrictions are imposed by various regulatory authorities based on the particular activities of the Firm's subsidiaries.

- Refer to Note 26 on page 280 of the 2020 Form 10-K for information on restrictions on cash and intercompany funds transfers.

Risk-weighted assets

Basel III establishes two comprehensive approaches for calculating RWA (a Standardized approach and an Advanced approach) which include capital requirements for credit risk, market risk, and in the case of Basel III Advanced, also operational risk. Key differences in the calculation of credit risk RWA between the Standardized and Advanced approaches are that for Basel III Advanced, credit risk RWA is based on risk-sensitive approaches which largely rely on the use of internal credit models and parameters, whereas for Basel III Standardized, credit risk RWA is generally based on supervisory risk-weightings which vary primarily by counterparty type and asset class. Market risk RWA is calculated on a generally consistent basis between Basel III Standardized and Basel III Advanced.

Covered position definition

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

Basel III capital rules define a covered position as:

(1) A trading asset or trading liability that meets both of the following conditions:

• The position is held for the purpose of short-term resale or with the intent to benefit from actual or expected short-term price movements, or to lock in arbitrage profits or is a hedge of another covered position;

• The position is free of any restrictive covenants on its tradability or the Firm is able to hedge the material risk elements of the position in a two-way market;

(2) A foreign exchange or commodity position, regardless of whether the position is a trading position (excluding structural foreign currency positions that has received prior supervisory approval)

Covered positions exclude certain positions such as equity positions that are not publicly traded, intangible assets including any servicing assets, and liquidity facilities that provide support to asset-backed commercial paper programs.

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

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

Components of risk-weighted assets

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

- Credit risk RWA covers the risk of unexpected losses due to obligor, counterparty, or issuer default, and in certain cases adverse changes in credit quality. Credit risk RWA includes retail credit risk, wholesale credit risk, counterparty credit risk, certain securitization exposures, equity investments, other assets, and the credit valuation adjustment (CVA) capital charge.
- Market risk RWA covers the risk associated with the effect of changes in market factors, such as interest and foreign exchange rates, equity and commodity prices, credit spreads or implied volatilities, on the value of assets and liabilities held for both the short and long term.
- Operational risk RWA covers the risk associated with an adverse outcome resulting from inadequate or failed internal processes or systems; human factors; or external events impacting the Firm's processes or systems.

The following table presents the components of the Firm's total risk-weighted assets under Basel III Advanced at December 31, 2020.

December 31, 2020 (in millions)	Basel III Advanced CECL Transitional RWA
Credit risk	$ 1,002,330
Market risk	96,910
Operational risk	385,191
Total RWA	$ 1,484,431

RWA rollforward

The following table presents changes in the components of RWA under Basel III Advanced for the three months ended December 31, 2020. The amounts represented in the rollforward categories are an approximation, based on the predominant driver of the change.

	Basel III Advanced CECL Transitional RWA			
Three months ended December 31, 2020 (in millions)	Credit risk	Market risk	Operational risk	Total
September 30, 2020	$ 953,993	$ 94,378	$ 380,963	$ 1,429,334
Model & data changes[(a)]	200	330	–	530
Portfolio runoff[(b)]	(900)	–	–	(900)
Movement in portfolio levels[(c)]	49,037	2,202	4,228	55,467
Changes in RWA	48,337	2,532	4,228	55,097
December 31, 2020	$1,002,330	$ 96,910	$ 385,191	$ 1,484,431

(a) Model & data changes refer to material movements in levels of RWA as a result of revised methodologies and/or treatment per regulatory guidance (exclusive of rule changes).
(b) Portfolio runoff for credit risk RWA primarily reflects reduced risk from position rolloffs in legacy portfolios in Home Lending business.
(c) Movement in portfolio levels (inclusive of rule changes) refers to: changes in book size, composition, credit quality, and market movements for credit risk RWA; changes in position and market movements for market risk RWA; updates to cumulative losses for operational risk RWA; and deductions to credit risk RWA for excess eligible credit reserves not eligible for inclusion in Tier 2 capital.

Capital requirements

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

➢ Refer to the Capital Risk Management section on pages 91-101 of the 2020 Form 10-K for information on the Firm's strategy and governance.

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

Under the risk-based capital and leverage-based guidelines of the Federal Reserve, JPMorgan Chase is required to maintain minimum ratios, which include regulatory buffers for CET1 capital, Tier 1 capital, Total capital, Tier 1 leverage and the SLR.

The following table presents the minimum and well-capitalized risk-based and leverage-based ratios to which the Firm and its IDI subsidiaries were subject as of December 31, 2020.

	Minimum capital ratios		Well-capitalized ratios	
	BHC[(a)(e)]	IDI[(b)(e)]	BHC[(c)]	IDI[(d)]
Capital ratios				
CET1 capital	10.5 %	7.0 %	NA	6.5 %
Tier 1 capital	12.0	8.5	6.0	8.0
Total capital	14.0	10.5	10.0	10.0
Tier 1 leverage	4.0	4.0	NA	5.0
SLR	5.0	6.0	NA	6.0

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

(a) Represents the minimum capital ratios applicable to the Firm. The CET1, Tier 1 and Total capital minimum capital ratios each include a respective minimum requirement plus a GSIB surcharge of 3.5% as calculated under Method 2; plus a fixed 2.5% capital conservation buffer for Basel III Advanced ratios. The countercyclical buffer is currently set to 0% by the federal banking agencies.
(b) Represents requirements for JPMorgan Chase's IDI subsidiaries. The CET1, Tier 1 and Total capital minimum capital ratios include a fixed capital conservation buffer requirement of 2.5% that is applicable to the IDI subsidiaries. The IDI subsidiaries are not subject to the GSIB surcharge.
(c) Represents requirements for bank holding companies pursuant to regulations issued by the Federal Reserve.
(d) Represents requirements for IDI subsidiaries pursuant to regulations issued under the FDIC Improvement Act.
(e) Represents minimum SLR requirement of 3.0%, as well as supplementary leverage buffer requirements of 2.0% and 3.0% for BHC and IDI, respectively.

In addition, the Federal Reserve's Total Loss Absorbing Capacity ("TLAC") rule requires the U.S. GSIB top-tier holding companies, including the Firm, to maintain minimum levels of external TLAC and eligible long-term debt ("eligible LTD").

- For additional information on TLAC and external long-term debt minimum requirements including applicable regulatory buffers, refer to the Capital Risk Management section on pages 91-101 of the 2020 Form 10-K.

Failure to meet these minimum requirements would result in restriction on capital distributions and certain discretionary bonus payments based on a percentage of the Firm's eligible retained income. Eligible retained income is defined as the greater of (a) net income for the four preceding quarters, net of any distributions and associated tax effects not already reflected in net income, and (b) the average of net income over the preceding four quarters, net of any associated tax effects not already reflected in net income. As of December 31, 2020, the eligible retained income for the Firm and JPMorgan Chase Bank, N.A was $6.4 billion and $4.8 billion, respectively. IDI subsidiaries are also subject to these capital requirements, with the exception of TLAC, established by their respective primary regulators.

Capital adequacy and Capital conservation buffer
As of December 31, 2020, JPMorgan Chase and its IDI subsidiaries were well-capitalized and met all capital requirements to which each was subject. In addition to its IDI subsidiaries, JPMorgan Chase also has other regulated subsidiaries, all of which meet applicable capital requirements.

As of December 31, 2020, the capital conservation buffer of the Firm and JPMorgan Chase Bank, N.A. was 8.6% and 8.9%, respectively, which exceeded the required capital conservation buffer of 6.0% (inclusive of the 3.5% GSIB surcharge) for the Firm and 2.5% for JPMorgan Chase Bank, N.A. On March 15, 2020, in response to the economic disruptions caused by the COVID-19 pandemic, the Firm temporarily suspended repurchases of its common stock. Subsequently, the Federal Reserve directed all large banks, including the Firm, to discontinue net share repurchases through the end of 2020. The Firm continued to pay the quarterly stock dividend of $0.90 per share.

The capital conservation buffer for the Firm and IDI subsidiaries is calculated as the lowest of the:

(i) CET1 ratio less the CET1 minimum requirement of 4.5%,
(ii) Tier 1 ratio less the Tier1 minimum requirement of 6.0% and
(iii) Total capital ratio less the Total capital minimum requirement of 8.0%.

The capital adequacy of the Firm and JPMorgan Chase Bank N.A. are evaluated against the Basel III approaches (Standardized or Advanced) which, for each quarter, results in the lower ratio as well as the supplementary leverage ratio. The Firm's Basel III Standardized-risk-based ratios are currently more binding than the Basel III Advanced-risk-based ratios.

Comprehensive Capital Analysis and Review ("CCAR")
Banking supervisors require large BHCs and their IDI subsidiaries, to submit at least annually a capital plan that has been reviewed and approved by the Board of Directors. The banking supervisors use the CCAR and other stress testing processes to ensure that large BHCs and their IDI subsidiaries have sufficient capital during periods of economic and financial stress, and have robust, forward-looking capital assessment and planning processes in place that address the BHC's and IDI subsidiary's unique risks to enable them to absorb losses under certain stress scenarios.

Through the CCAR and other stress testing processes, the banking supervisors evaluate each BHC and IDI subsidiary's capital adequacy and ICAAP, as well as its plans to make capital distributions, such as dividend payments or stock repurchases. On December 18, 2020, the Federal Reserve released its results from the 2020 CCAR Round 2 stress test, which showed that large banks had strong levels of capital and announced that it would allow all large banks, including the Firm, to resume share repurchases commencing in the first quarter of 2021, subject to certain restrictions for at least the first quarter of 2021 given considerable economic uncertainty remained.

Internal Capital Adequacy Assessment Process ("ICAAP")
Annually, the Firm prepares the ICAAP, which informs the Board of Directors of the ongoing assessment of the Firm's processes for managing the sources and uses of capital as well as compliance with supervisory expectations for capital planning and capital adequacy. The Firm's ICAAP integrates stress testing protocols with capital planning.

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

➢ For information on the Firm's Internal Capital Adequacy Assessment Process ("ICAAP") and Comprehensive Capital Analysis and Review ("CCAR") processes, refer to Regulatory Capital on pages 91-92 of the 2020 Form 10-K.

Regulatory capital metrics for JPMorgan Chase and JPMorgan Chase Bank, N.A.

The following tables present the risk-based and leverage-based capital metrics for JPMorgan Chase and JPMorgan Chase Bank, N.A. under both the Basel III Advanced CECL Transitional and Fully Phased-In Approaches as of December 31, 2020.

	JPMorgan Chase & Co.[d]	
As of December 31, 2020 (in millions, except ratios)	**Basel III Advanced CECL Transitional**	**Basel III Advanced CECL Fully Phased-In**
Risk-based capital metrics:		
CET1 capital	**$ 205,078**	**$ 199,357**
Tier 1 capital	**234,844**	**229,123**
Total capital	**257,228**	**251,509**
Risk-weighted assets	**1,484,431**	**1,481,720**
CET1 capital ratio	**13.8 %**	**13.5 %**
Tier 1 capital ratio	**15.8**	**15.5**
Total capital ratio	**17.3**	**17.0**
Leverage-based capital metrics:		
Adjusted average assets[b]	**$ 3,353,319**	**$ 3,347,598**
Tier 1 leverage ratio	**7.0 %**	**6.8 %**
Total leverage exposure[c]	**$ 3,401,542**	**$ 3,390,725**
SLR[c]	**6.9 %**	**6.8 %**

	JPMorgan Chase Bank, N.A.[d]	
As of December 31, 2020 (in millions, except ratios)	**Basel III Advanced CECL Transitional**	**Basel III Advanced CECL Fully Phased-In**
Risk-based capital metrics:		
CET1 capital	**$ 234,235**	**$ 228,471**
Tier 1 capital	**234,237**	**228,473**
Total capital	**239,673**	**233,909**
Risk-weighted assets	**1,343,185**	**1,340,464**
CET1 capital ratio	**17.4 %**	**17.0 %**
Tier 1 capital ratio	**17.4**	**17.0**
Total capital ratio	**17.8**	**17.4**
Leverage-based capital metrics:		
Adjusted average assets[b]	**$ 2,970,285**	**$ 2,964,520**
Tier 1 leverage ratio	**7.9 %**	**7.7 %**
Total leverage exposure[c]	**$ 3,688,797**	**$ 3,683,033**
SLR[c]	**6.3 %**	**6.2 %**

(a) Total regulatory capital for JPMorgan Chase & Co. includes $502 million of surplus regulatory capital in insurance subsidiaries.

(b) Adjusted average assets, for purposes of calculating the leverage ratio, includes total quarterly average assets adjusted for on-balance sheet assets that are subject to deduction from Tier 1 capital, predominantly goodwill and other intangible assets.

(c) JPMorgan Chase's total leverage exposure for purposes of calculating the SLR, excludes on-balance sheet amounts of U.S. Treasury securities and deposits at Federal Reserve Banks, as provided by the interim final rule issued by the Federal Reserve on April 1, 2020. On June 1, 2020, the Federal Reserve, OCC and FDIC issued an interim final rule that provides IDI subsidiaries with an option to apply this temporary exclusion subject to certain restrictions. As of December 31, 2020, JPMorgan Chase Bank, N.A. has not elected to apply this exclusion.

(d) Capital metrics for the Firm reflect the exclusion of assets purchased from money market mutual fund clients pursuant to nonrecourse advances provided under the Money Market Mutual Fund Liquidity Facility (MMLF). Additionally, loans originated under the Paycheck Protection Program (PPP) the Firm and JPMorgan Chase Bank, N.A. receive a zero percent risk weight.

➢ For information on Basel III Standardized CECL Transitional capital metrics, refer to the Capital Risk Management section on pages 91-101 and Note 27 on pages 281-282 of the 2020 Form 10-K

Supplementary leverage ratio ("SLR")

The following table presents the components of the Firm's SLR as of December 31, 2020.

December 31, 2020 (in millions, except ratios)	**Basel III Advanced CECL Transitional**
Basel III Advanced Tier 1 capital	**$ 234,844**
Total spot assets	**3,386,071**
Add: Adjustments for frequency of calculations[a]	13,747
Total average assets	**3,399,818**
Less adjustments for:	
Adjustments for deductions from tier 1 capital[b]	48,438
Exclusions for U.S. Treasuries and Federal Reserve Bank deposits	681,755
Add adjustments for:	
Adjustment for derivative transactions	349,680
Adjustment for repo-style transactions	41,488
Off-balance sheet exposures[c]	335,386
Other[d]	5,363
Total leverage exposure	**$ 3,401,542**
Basel III Advanced SLR	**6.9 %**

(a) The adjustment for frequency of calculations represents the difference between total spot assets at December 31, 2020 and total average assets for the three months ended December 31, 2020.

(b) Adjustments for assets that are subject to deduction from Tier 1 capital are predominantly goodwill and other intangible assets.

(c) Off-balance sheet exposures are calculated as the average of the three month-end spot balances during the reporting quarter.

(d) Includes adjustments for the CECL capital transition provisions and the exclusion of average assets purchased from money market mutual fund clients pursuant to nonrecourse advances provided under the MMLF.

Total Loss-Absorbing Capacity ("TLAC")

The Federal Reserve's TLAC rule requires the U.S. GSIB top-tier holding companies, including JPMorgan Chase & Co. (the "Parent Company"), to maintain minimum levels of unsecured external long-term debt and other loss-absorbing capacity with specific terms ("eligible LTD") for purposes of recapitalizing JPMorgan Chase's operating subsidiaries if the Parent Company were to enter into a resolution either:

- in a bankruptcy proceeding under Chapter 11 of the U.S. Bankruptcy Code, or
- in a receivership administered by the FDIC under Title II of the Dodd-Frank Act ("Title II").

If the Parent Company were to enter into a resolution, holders of eligible LTD and other debt and equity securities of the Parent Company will absorb the losses of the Parent Company and its subsidiaries.

The preferred "single point of entry" strategy under JPMorgan Chase's resolution plan contemplates that only the Parent Company would enter bankruptcy proceedings. JPMorgan Chase's subsidiaries would be recapitalized, as needed, so that they could continue normal operations or subsequently be divested or wound down in an orderly manner. As a result, the Parent Company's losses and any losses incurred by its subsidiaries would be imposed first on holders of the Parent Company's equity securities and thereafter on its unsecured creditors, including holders of eligible LTD and other debt securities. Claims of holders of those securities would have a junior position to the claims of creditors of JPMorgan Chase's subsidiaries and to the claims of priority (as determined by statute) and secured creditors of the Parent Company.

Accordingly, in a resolution of the Parent Company in bankruptcy, holders of eligible LTD and other debt securities of the Parent Company would realize value only to the extent available to the Parent Company as a shareholder of JPMorgan Chase Bank, N.A. and its other subsidiaries, and only after any claims of priority and secured creditors of the Parent Company have been fully repaid.

The FDIC has similarly indicated that a single point of entry recapitalization model could be a desirable strategy to resolve a systemically important financial institution, such as the Parent Company, under Title II. However, the FDIC has not formally adopted a single point of entry resolution strategy.

If the Parent Company were to approach, or enter into, a resolution, none of the Parent Company, the Federal Reserve or the FDIC is obligated to follow JPMorgan Chase's preferred resolution strategy, and losses to holders of eligible LTD and other debt and equity securities of the Parent Company, under whatever strategy is ultimately followed, could be greater than they might have been under JPMorgan Chase's preferred strategy.

The following table presents the eligible external TLAC and eligible LTD amounts, as well as a representation of the amounts as a percentage of the Firm's total RWA and total leverage exposure applying the impact of the CECL capital transition provisions as of December 31, 2020.

	December 31, 2020	
(in billions, except ratio)	External TLAC	LTD
Total eligible amount	$ 421.0	$ 181.4
% of RWA	27.0 %	11.6 %
Surplus/(shortfall)	$ 62.1	$ 33.1
% of total leverage exposure	12.4 %	5.3 %
Surplus/(shortfall)	$ 97.9	$ 28.3

- For additional information on TLAC, refer to the Capital Risk Management section on pages 91-101 of the 2020 Form 10-K. For information on the financial consequences to holders of the Firm's debt and equity securities in a resolution scenario, refer to Part I, Item 1A: Risk Factors on pages 8-32 of the Firm's 2020 Form 10-K.

Credit risk is the risk associated with the default or change in credit profile of a client, counterparty or customer. The Firm provides credit to a variety of customers, ranging from large corporate and institutional clients to individual consumers and small businesses. The consumer credit portfolio consists of scored mortgage and home equity loans held in the Consumer & Community Banking ("CCB") and Asset & Wealth Management ("AWM") business segments; scored mortgage loans held in the Corporate segment; scored credit card, auto and business banking loans, and overdrafts in CCB; and the associated lending-related commitments in each of those business segments. The wholesale credit portfolio refers primarily to exposures held by the Corporate & Investment Bank ("CIB"), Commercial Banking ("CB"), AWM and Corporate business segments, as well as risk-rated business banking and auto dealer loans held in CCB. In addition to providing credit to clients, the Firm engages in client-related activities that give rise to counterparty credit risk such as securities financing, margin lending and market-making activities in derivatives. Finally, credit risk is also inherent in the Firm's investment securities portfolio held by Treasury and Chief Investment Office ("CIO") in connection with its asset-liability management objectives. Investment securities, as well as deposits with banks and cash due from banks, are classified as wholesale exposures for RWA reporting.

Basel III includes capital charges for counterparty default risk and credit valuation adjustments ("CVA"). CVA is a fair value adjustment to reflect counterparty credit risk in the valuation of over-the-counter ("OTC") derivatives. The Firm calculates CVA RWA using the Simple CVA approach, which uses internal ratings based probability of default ("PD") and a combination of the current exposure method ("CEM") and the internal model method ("IMM") exposure at default ("EAD") for each netting set.

➢ Refer to the Counterparty Credit Risk section on page 19 of this report for further description of the IMM and CEM EAD methodologies.

In addition to Credit Risk Management, an independent Credit Review function is responsible for:

- Independently validating or changing the risk grades assigned to exposures in the Firm's wholesale credit portfolio, and assessing the timeliness of risk grade changes initiated by responsible business units; and
- Evaluating the effectiveness of business units' credit management processes, including the adequacy of credit analyses and risk grading/LGD rationales, proper monitoring and management of credit exposures, and compliance with applicable grading policies and underwriting guidelines.

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

➢ Refer to Credit and Investment Risk Management on pages 110-134 of the 2020 Form 10-K.

➢ Refer to the Notes to the Consolidated Financial Statements beginning on page 167 of the 2020 Form 10-K. Specific page references are contained in the Appendix of this report.

Summary of credit risk RWA

Credit risk RWA includes retail, wholesale and counterparty credit exposures described in this section as well as securitization and equity exposures in the banking book. Other exposures such as non-material portfolios, unsettled transactions and other assets that are not classified elsewhere are also included. The following table presents the Firm's total credit risk RWA including a 1.06 scaling factor excluding CVA at December 31, 2020.

December 31, 2020 (in millions)		Basel III Advanced CECL Transitional RWA
Retail exposures	$	172,980
Wholesale exposures		451,176
Counterparty exposures		144,253
Securitization exposures[(a)]		38,466
Equity exposures		58,602
Other exposures[(b)]		80,688
CVA		66,692
Less: Excess eligible credit reserves not included in Tier 2 capital		10,527
Total credit risk RWA	$	1,002,330

(a) Represents banking book securitization RWA only.
(b) Includes other assets, non-material portfolios, and unsettled transactions.

Credit risk exposures

Credit risk exposures for the three months ended December 31, 2020 are contained in the the 2020 Form 10-K. Specific references to the the 2020 Form 10-K are listed below.

Traditional credit products

- Refer to Credit Risk Management beginning on page 110 for credit-related information on the consumer and wholesale portfolios.
- Refer to Note 12 on pages 232-247 for the distribution of loans by geographic region and industry.
- Refer to Note 28 on pages 283-288 for the contractual amount and geographic distribution of lending-related commitments.
- Refer to Credit Portfolio on page 112 for additional information on the various forms of assistance the Firm has granted to customers and clients impacted by the COVID-19 pandemic. Consumer and Wholesale assistance on page 116 and page 122 respectively.

Counterparty credit risk

- Refer to the Consumer Credit Portfolio section on pages 114-120, and to the Wholesale Credit Portfolio section on pages 121-131 for eligible margin loans balances.
- Refer to Wholesale Credit Portfolio footnote (g) on page 123, Country Risk on page 143.
- Refer to Note 3 on pages 192-195 for the gross positive fair value, netting benefits and net exposure of derivative receivables.
- Refer to Derivative contracts on page 129 for credit derivatives used in credit portfolio management activities.
- Refer to Credit and Investment Risk Management, Risk monitoring and management on page 111, Note 4, Credit risk concentration, on page 196, Note 5, Derivative instruments, on pages 198-211 and Note 11, Securities financing activities, on pages 229-231 of the 2020 Form 10-K for a discussion of credit limits for counterparty credit exposures, policies for securing collateral, valuing and managing collateral.
- Refer to Note 5, Derivative instruments, on pages 198-211, Note 11, Securities financing activities, on pages 229-231 and Wholesale Credit Portfolio, Receivables from customers, on page 129 of the 2020 Form 10-K for a discussion of primary types of collateral taken for counterparty credit exposures.
- Refer to Note 10 on pages 223-228 for information on gross and net securities purchased under resale agreements and securities borrowed transactions, and for information regarding the credit risk inherent in the securities financing portfolio.

Investment securities

- Refer to Credit and Investment Risk Management on pages 110-134 and Note 10 on pages 223-228 for the investment securities portfolio by issuer type.

Country risk

- Refer to 144 the top 20 country exposures (excluding the U.S.).

Allowance for credit losses

- Refer to Allowance for Credit Losses on pages 132-133 for a summary of changes in the allowance for loan losses and allowance for lending-related commitments.
- Refer to Note 13 on page 248-252 for the allowance for credit losses and loans and lending-related commitments by impairment methodology.
- Refer to Note 10 on page 223-228 for the allowance for credit losses on held-to-maturity securities.

Average balances

- Refer to page 300 for the Consolidated average balance sheet.

Credit Risk Mitigation

- Refer to Credit and Investment Risk Management, Risk monitoring and management on page 111, Note 1, Basis of presentation, Offsetting assets and liabilities, on page 168-169, Note 4, Credit risk concentrations, on page 196, Note 5, Derivative instruments, on pages 198-211, and Note 11, Securities financing activities on pages 229-231 of the 2020 Form 10-K for a discussion of processes for managing and recognizing credit risk mitigation and policies for on netting benefit.
- Refer to Market Risk Management, Risk monitoring and control, on page 135, Note 4, Credit risk concentrations, on page 196, Note 5, Derivative instruments, on pages 198-211, and Note 11, Securities financing activities, on pages 229-231 of the 2020 Form 10-K for a discussion of market and credit risk concentrations and credit derivative counterparties and their creditworthiness.

Credit risk concentrations

Concentrations of credit risk arise when a number of clients, counterparties or customers are engaged in similar business activities or activities in the same geographic region, or when they have similar economic features that would cause their ability to meet contractual obligations to be similarly affected by changes in economic conditions.

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

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

The Firm's wholesale exposure is managed through loan syndications and participations, loan sales, securitizations, credit derivatives, master netting agreements, collateral and other risk-reduction techniques.

The Firm does not believe that its exposure to any particular loan product or industry segment (e.g., real estate), or its exposure to residential real estate loans with high LTV ratios, results in a significant concentration of credit risk.

Terms of loan products and collateral coverage are included in the Firm's assessment when extending credit and establishing its allowance for loan losses.

➢ Refer to Note 4, Credit risk concentrations on page 196-197 for additional information.

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

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

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

Risk parameter estimation

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

The retail exposures are first broken down into their retail subcategories. Residential mortgage exposures include all exposures secured by residential real estate. This includes traditional mortgages, home equity loans, home equity lines of credit and business banking exposures that are primarily secured by residential real estate. Qualifying revolving exposures ("QRE") include credit cards where the overall credit limit is less than or equal to $100,000.

Other retail includes all exposures not classified as residential mortgage or QRE. This includes personal auto finance loans, student loans, credit card accounts above $100,000, business card exposures without a personal guarantee and business banking loans that are less than $500,000 and that are scored or managed as a group of loans with homogeneous risk characteristics.

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

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

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

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

The risk drivers comprising the segments are evaluated on their ability to differentiate risk consistently over time. Modifications to the segments are made periodically, driven by the validation results, shifts in risk management strategies, regulatory guidance or risk modeling best practices. The risk characteristics used for segmentation are consistent with the predominant risk drivers used for other internal credit risk models used by the Firm.

Risk-weighted assets

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

The following table presents the Firm's retail RWA at December 31, 2020.

December 31, 2020 (in millions)		Basel III Advanced RWA
Residential mortgages	$	56,199
Qualifying revolving		97,645
Other retail		19,136
Total retail credit RWA	$	172,980

Residential mortgage exposures

The following table includes first lien and junior lien mortgages and revolving home equity lines of credit. First lien mortgages were 90% of the exposure amount, revolving exposures were 9.8%, and the remaining exposures related to junior lien mortgages. Revolving exposures were largely originated prior to 2010 and drive approximately 22% of the total risk weighted assets of this portfolio, with nearly 19% of the exposures in the equal to or greater than 0.75% PD ranges. Recent originations are primarily first lien mortgages and are predominantly reflected in the less than 0.75% PD ranges.

December 31, 2020
(in millions, except ratios)

PD range (%)	Balance sheet amount	Off balance sheet commitments	EAD	RWA	Exposure-weighted average PD	Exposure-weighted average LGD	Exposure-weighted average Risk weight
0.00 to <0.10	$ 117,820	$ 39,914	$ 141,781	$ 7,254	0.05	36.91	5.12
0.10 to <0.20	50,990	751	51,097	6,585	0.15	38.16	12.89
0.20 to <0.75	44,100	4,102	48,005	11,486	0.32	39.64	23.93
0.75 to <5.50	19,523	75	19,087	15,868	1.86	44.56	83.14
5.50 to <10.00	2,228	2	2,085	3,661	6.57	43.70	175.60
10.00 to < 100	2,602	3	2,454	4,819	24.63	37.92	196.36
100 (default)	6,853	18	6,677	6,526	100.00	N/A [a]	97.74 [b]
Total	$ 244,116	$ 44,865	$ 271,186	$ 56,199	2.98%	37.32%	20.72%

(a) The Loss given default ("LGD") rate is reported as N/A for residential mortgage exposures in default because at the point they are classified as defaulted per the Basel III capital rules definition they have been charged off to the fair value of any underlying collateral less cost to sell. Any balance remaining after the charge-off is risk weighted at 100%.

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

Qualifying revolving exposures

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

December 31, 2020
(in millions, except ratios)

PD range (%)	Balance sheet amount	Off balance sheet commitments	EAD	RWA	Exposure-weighted average		
					PD	LGD	Risk weight
0.00 to <0.50	$ 57,449	$ 587,344	$ 238,011	$ 12,221	0.09	91.53	5.13
0.50 to <2.00	33,072	44,352	41,757	16,540	1.07	93.99	39.61
2.00 to <3.50	15,264	8,691	16,490	12,849	2.63	94.13	77.92
3.50 to <5.00	14,310	2,192	14,442	14,352	3.72	94.10	99.38
5.00 to <8.00	6,726	1,473	6,790	10,143	6.94	94.36	149.38
8.00 to < 100	16,741	1,049	16,742	31,540	21.89	93.15	188.38
100 (default) [a]	–	–	–	–	100.00	N/A	–
Total	$ 143,562	$ 645,101	$ 334,232	$ 97,645	1.73%	92.21%	29.21%

(a) Defaulted exposures in the qualifying revolving portfolio are charged off prior to reaching default as defined in the Basel III capital rules. Accordingly, no defaulted exposures are reported in the 100 (default) PD range.

Other retail exposures

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

December 31, 2020
(in millions, except ratios)

PD range (%)	Balance sheet amount	Off balance sheet commitments	EAD	RWA	Exposure-weighted average		
					PD	LGD	Risk weight
0.00 to <0.50	$ 57,270 [b]	$ 13,301	$ 61,378 [b]	$ 6,769 [b]	0.13	26.93	11.03
0.50 to <2.00	18,117	887	18,446	7,643	0.92	40.23	41.43
2.00 to <3.50	2,781	400	2,872	1,774	2.65	42.70	61.78
3.50 to <5.00	777	15	790	673	3.67	56.07	85.20
5.00 to <8.00	1,034	37	1,047	708	6.93	41.62	67.63
8.00 to < 10.00	1,233	8	1,242	1,299	25.91	50.98	104.55
100 (default)	245	10	255	270	100.00	N/A [a]	106.00
Total	$ 81,457	$ 14,658	$ 86,030	$ 19,136	1.17%	31.02%	22.24%

(a) The LGD rate is reported as N/A for retail exposures in default because at the point they are classified as defaulted per the Basel III capital rules definition they have been charged off to the fair value of any underlying collateral less cost to sell. Any balance remaining after the charge off is risk weighted at 100%.
(b) As of December 31, 2020, EAD includes $19.2 billion of loans originated under the PPP, which attract a zero percent risk weight.

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

The population of risk-rated loans and lending-related commitments receiving wholesale treatment for regulatory capital purposes predominantly overlaps with the wholesale credit portfolio reflected in the Firm's SEC disclosures. In accordance with the Basel III capital rules, the wholesale population for regulatory capital consists of:

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

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

Risk parameter estimation

Risk weights are determined by using internal risk weight parameters. The estimation process for these parameters begins with internal risk-ratings assigned to the obligor. Obligor ratings are used for both internal risk management and regulatory capital calculations.

For regulatory capital, probability of default is defined as the Firm's best estimate of the long-run, through-the-cycle average one-year default rate. The Firm's PD estimates used in RWA calculations are based on the internal default experience of obligors with the same rating.

LGD is defined as an estimate of losses given a default event under stressed economic conditions. The LGD estimate is based on empirical analysis of post-default loss and recovery information over the historical observation period, and factors in the timing of expected cash flows, estimated recovery costs, and accrued interest and fees. The regulatory LGD used in the RWA calculation reflects the higher of the loss experience over the entire historical observation period and the loss experience over a stress period.

EAD for a non-defaulted obligor is the estimate of total exposure upon default of the obligor. EAD is a calculation of the full amount of the Firm's exposure to on-balance sheet exposures plus a portion of the off-balance sheet exposure based on the Firm's best estimate of net additions of contingent exposure if the obligor were to enter into default in the upcoming year under stressed economic conditions. Quantification of EAD for off-balance sheet exposures is developed through empirical analysis of historical behavior of defaulted exposures in the months leading up to default.

Both the internal ratings process and the risk parameter estimation process are subject to independent review.

Risk-weighted assets

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

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

December 31, 2020 (in millions)		Basel III Advanced RWA
Corporate		363,900
Bank		10,035
Sovereign		22,726
Income-producing real estate		54,432
High volatility commercial real estate		83
Total wholesale credit RWA	$	451,176

Wholesale exposures

The following table presents exposures to wholesale clients and issuers by PD range. Exposures are comprised primarily of traditional credit products (i.e. loans and lending-related commitments), issuer risk for debt securities, and cash placed with various central banks, predominantly Federal Reserve Banks. Total EAD is $1.8 trillion, with 81% of this exposure in the first two PD ranges, which are predominantly investment-grade. Exposures meeting the Basel definition of default represent 0.3% of total EAD. The exposure-weighted average LGD for the wholesale portfolio is 26%.

December 31, 2020 (in millions, except ratios)

PD range (%)	Balance sheet amount	Off balance sheet commitments	EAD	RWA	Exposure-weighted average PD	Exposure-weighted average LGD	Exposure-weighted average Risk weight
0.00 to <0.15	$ 1,116,428 [b]	$ 122,375	$ 1,205,244 [b]	$ 89,835 [b]	0.02	24.46	7.45
0.15 to <0.50	166,698	178,856	283,367	118,721	0.16	31.70	41.90
0.50 to <1.35	158,575	92,497	211,914	108,601	0.85	27.77	51.25
1.35 to <10.00	65,521	62,221	103,038	83,801	3.66	27.59	81.33
10.00 to <100	19,721	24,734	31,655	44,419	20.78	28.10	140.32
100 (default)	4,636	1,463	5,504	5,799	100.00	N/A [a]	105.36
Total	$ 1,531,579	$ 482,146	$ 1,840,722	$ 451,176	1.00%	26.22%	24.51%

(a) The LGD rate is reported as N/A for defaulted wholesale exposures because the RWA is calculated based on supervisor provided risk weights and does not depend on LGD estimates.

(b) As of December 31, 2020, EAD includes $8.0 billion of loans originated under the PPP, which attract a zero percent risk weight.

Credit risk mitigation

The risk mitigating benefit of eligible guarantees and credit derivative hedges are reflected in the RWA calculation as permitted by the Basel III capital rules. At December 31, 2020, $80.9 billion of EAD for wholesale exposures is covered by eligible guarantees or credit derivatives.

Counterparty credit risk exposures arise from OTC derivatives, repo-style transactions, eligible margin loans and cleared transactions.

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

Over-the-counter ("OTC") derivatives
The Firm principally uses the internal model method ("IMM") under the Basel III capital rules for calculating counterparty credit risk regulatory capital for OTC derivatives.

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

The Firm's IMM methodology simulates forward-looking market risk factors and uses product-specific pricing models to produce the expected exposure profile for the set of OTC derivatives under each legally enforceable master netting agreement ("netting set"). The IMM model computes two sets of expected exposure profiles and EADs: (1) unstressed expected exposure profiles and EADs using the current market data, and (2) stressed expected exposure profiles and EADs based on a historical period that includes a period of economic stress that results in wider credit default swap ("CDS") spreads. For RWA reporting purposes, the higher of the RWAs generated from these two produced profiles is used. In addition to the regulatory measure of exposure, the IMM model also produces a variety of other risk measures used for internal credit risk management and reporting.

For certain types of derivatives where the IMM model is not used, regulatory exposure is calculated using the current exposure method ("CEM"). In the CEM methodology, EAD for a netting set is the sum of the mark-to-market ("MTM") value, floored at zero and an add-on amount which is based on the notional amount and a regulatory conversion factor for each derivative transaction. In the EAD calculation, exposures at the transaction level are aggregated to incorporate the effects of legally enforceable master netting agreements.

In addition, both methods incorporate the effects of collateral received or posted. The EAD is used in the regulatory capital formula to calculate counterparty-level RWA.

The IMM models are subject to periodic backtesting to demonstrate that performance continues to be acceptable. Further, the internal models are also used to project the impacts of various internal and regulatory stress events to enhance knowledge of the impact potential events would have on credit exposures and capital adequacy.
Certain OTC derivatives are considered securitization exposures and reported in the Securitization section of this report.

Repo-style transactions and eligible margin loans
Counterparty credit risk for repo style transactions and eligible margin loans stems from the inability or unwillingness of a trading counterparty to fulfill their contractual obligations to the Firm. Upon a default, the amount of the risk is the market value of the exposure to the counterparty less the market value of collateral received from the counterparty.

Counterparty credit risk RWA for both repo style transactions and eligible margin loans is calculated using the Collateral Haircut Approach. Under this method the credit risk mitigation benefits of eligible collateral is recognized in the determination of EAD after applying relevant standard supervisory market price volatility haircuts.

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

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

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

Basel III capital requirements for cleared transactions consists of two components of exposure used to calculate RWA: (1) trade exposure, which is the sum of the EAD (based on the same EAD calculation used for OTC derivatives or repo-style transactions) and collateral posted by the Firm that is not bankruptcy remote from the CCP, and (2) contributions to the guarantee fund maintained by a CCP as part of the member loss sharing agreement. Only cleared trades where the counterparty is a CCP are classified as cleared transactions under the Basel III capital rules.

Wrong-way risk

Wrong-way risk is the risk that exposure to a counterparty is positively correlated with the probability of default of the same counterparty, which could cause exposure to increase at the same time as the counterparty's capacity to meet its obligations is decreasing. This risk would result in greater EAD when compared with a transaction with another counterparty that does not have this risk. The Firm has policies and processes in place to actively monitor and control wrong-way risk throughout the life cycle of each transaction. Wrong-way risk is factored into the Firm's EAD and RWA calculations in line with the Basel III capital rules.

Risk-weighted assets

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

RWA for exposures where the counterparty is a CCP depends on whether the CCP meets the criteria for classification as a qualifying CCP. The appropriate risk weights are applied to the trade exposure and contributions to the CCP's guarantee fund.

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

December 31, 2020 (in millions)		Basel III Advanced RWA
OTC derivatives	$	65,209
Repo-style transactions		42,025
Eligible margin loans		24,000
Cleared transactions		13,019
Total counterparty credit RWA	$	144,253

Counterparty credit exposures

The following table presents counterparty credit risk exposures for OTC derivatives, repo-style transactions and eligible margin loans by PD range. The table does not include cleared transactions. Total EAD is $309 billion, with 73% of this exposure in the first two PD ranges, which are predominantly investment-grade. Exposures meeting the Basel definition of default represent 0.1% of total EAD. The exposure-weighted average LGD for this portfolio is 40%. The collateral benefit is reflected primarily in the EAD.

December 31, 2020
(in millions, except ratios)

			Exposure-weighted average		
PD range (%)	EAD	RWA	PD	LGD	Risk weight
0.00 to <0.15	$ 153,115	$ 26,182	0.07	38.56	17.10
0.15 to <0.50	73,500	36,693	0.27	41.89	49.92
0.50 to <1.35	58,653	39,816	0.85	41.99	67.89
1.35 to <10.00	20,782	22,731	3.31	38.53	109.38
10.00 to <100	3,054	5,633	22.10	35.10	184.44
100 (default)	184	179	100.00	N/A [(a)]	97.36
Total	$ 309,288	$ 131,234	0.77%	39.96%	42.43%

(a) The LGD rate is reported as N/A for defaulted counterpart credit exposures because the RWA is calculated based on supervisor provided risk weights and does not depend on LGD estimates.

Credit risk mitigation

The risk mitigating benefit of eligible guarantees and credit derivative hedges are reflected in the RWA calculation as permitted by the Basel III capital rules. At December 31, 2020, $4.7 billion of EAD for OTC derivatives is covered by eligible guarantees.

Securitizations are transactions in which:

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

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

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

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

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

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

Due diligence
For each securitization and re-securitization exposure, under the Basel III capital rules the Firm is required to perform due diligence prior to acquiring these exposures and document such due diligence within three business days. The Firm's due diligence procedures are designed to provide it with a comprehensive understanding of the features that would materially affect the performance of a securitization or re-securitization.

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

• The quality of the credit risk, including information regarding the performance of the underlying credit exposures and relevant market data;

• The structural and other enhancement features that may affect the credit quality of a securitization or re-securitization; and

• For re-securitization positions, information on the performance of the underlying securitization exposures.

The level of detail included in the due diligence process is commensurate with the complexity of each securitization or re-securitization exposure held. In addition to pre-trade due diligence, ongoing due diligence is also performed no less frequently than quarterly as required by the Basel III capital rules.

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

Credit risk mitigation
Various strategies are employed by the Firm to mitigate the risks that arise from securitization and re-securitization positions. These include credit risk mitigation at both the transaction and portfolio levels through diversification and hedging.

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

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

Hierarchy of approaches

Basel III Advanced capital rules prescribe a hierarchy of approaches for calculating securitization RWA. First, any after-tax gain-on-sale resulting from a securitization is deducted from CET1 and a 1250% risk weight is applied to any credit-enhancing interest only strips ("CEIOs") that are not required to be deducted. RWA for securitization exposures that are not required to be deducted or assigned a 1250% risk weight is computed under the Supervisory Formula Approach ("SFA"), which leverages internal models to compute the input parameters that determine RWA. Where SFA cannot be utilized, RWA is calculated under the Simplified Supervisory Formula Approach ("SSFA"), which leverages supervisory risk weights and other inputs to determine RWA or assigned a 1250% risk weight.

- Refer to Note 1 & Note 14 on pages 167-170 and 253-260, respectively, of the 2020 Form 10-K for a discussion of the accounting policies related to securitization activities and affiliated entities (i.e., voting interest entities and variable interest entities (including SPEs)).
- Refer to Note 2 on pages 171-191 of the 2020 Form 10-K for a discussion on the valuation of retained or purchased securitization interests.
- Refer to Note 12, Loans held-for-sale, on page 233, Note 2, the valuation methodology table on page 173, and Note 14, Loan securitizations on page 253, of the 2020 Form 10-K for a discussion of the valuation of loans that are intended to be securitized and accounted for as securitization exposures.
- Refer to Note 28, Loan sales- and securitization-related indemnifications on pages 286-287 of the 2020 Form 10-K for a discussion of the accounting policies for recognizing a liability associated with loan sales-and securitization-related indemnifications.

Risk-weighted assets

The following table presents banking book and trading book exposures receiving securitization capital treatment (with the exception of modeled correlation trading positions which are presented in the Market Risk section). The amounts include traditional and synthetic securitization exposures with re-securitizations shown separately based on Supervisory Formula Approach ("SFA") and Simplified Supervisory Formula Approach ("SSFA").

	Securitization							
	SFA		SSFA		1250%		Total	
December 31, 2020 (in millions)	Exposure	RWA	Exposure	RWA	Exposure	RWA	Exposure	RWA
Risk weight								
= 0% ≤ 20%	$ 66,433	$ 13,813	$ 92,298	$ 19,441	$ –	$ –	$ 158,731	$ 33,254
> 20% ≤ 50%	229	95	2,270	772	–	–	2,499	867
> 50% ≤ 100%	249	198	3,265	2,129	–	–	3,514	2,327
> 100% < 1250%	310	1,313	596	2,399	–	–	906	3,712
= 1250%	6	78	53	688	83	1,100	142	1,866
Securitization, excluding re-securitization	$ 67,227	$ 15,497	$ 98,482	$ 25,429	$ 83	$ 1,100	$ 165,792	$ 42,026

	Re-securitization							
	SFA		SSFA		1250%		Total	
December 31, 2020 (in millions)	Exposure	RWA	Exposure	RWA	Exposure	RWA	Exposure	RWA
Risk weight								
= 0% ≤ 20%	$ 158	$ 34	$ 932	$ 198	$ –	$ –	$ 1,090	$ 232
> 20% ≤ 50%	–	–	–	–	–	–	–	–
> 50% ≤ 100%	–	–	–	–	–	–	–	–
> 100% < 1250%	4	40	–	–	–	–	4	40
= 1250%	–	1	2	22	–	–	2	23
Re-securitization[(a)]	$ 162	$ 75	$ 934	$ 220	$ –	$ –	$ 1,096	$ 295
Total securitization[(b)]	$ 67,389	$ 15,572	$ 99,416	$ 25,649	$ 83	$ 1,100	$ 166,888	$ 42,321

(a) As of December 31, 2020, there were no re-securitizations to which credit risk mitigation has been applied.
(b) Total securitization RWA includes $3.9 billion of RWA on trading book exposure of $5.8 billion. The trading book RWA represents non-modeled securitization charges in the Market Risk section of this report.

Any gain-on-sale in connection with a securitization exposure must be deducted from CET1 capital. The amount deducted as of December 31, 2020 was immaterial.

Exposure by collateral type

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

December 31, 2020 (in millions)	Exposure			
	On-balance sheet	Off-balance sheet[a]	Total	RWA
Collateral type:				
Residential mortgages	$ 38,256	$ 871	$ 39,127	$ 10,651
Commercial mortgages	18,439	420	18,859	5,647
Commercial and industrial loans	48,713	3,789	52,502	12,981
Consumer auto loans	18,202	7,344	25,546	5,684
Student loans	8,320	1,186	9,506	2,221
Municipal bonds	–	6,071	6,071	1,287
Other	12,750	2,527	15,277	3,850
Total securitization exposure	$ 144,680	$ 22,208	$ 166,888	$ 42,321

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

Assets securitized

The following table presents the total outstanding principal balance of JPMorgan Chase-sponsored securitizations in which the Firm has retained exposure in either the banking book or the trading book. Third-party assets in deals sponsored by JPMorgan Chase are shown separately. During the three months ended December 31, 2020, losses recognized on securitized assets were immaterial.

December 31, 2020 (in millions)	Principal amount outstanding			
	JPMorgan Chase assets held in traditional securitizations[a]	Third-party assets held in traditional securitizations[a]	JPMorgan Chase assets in synthetic securitizations	Assets 90 days past due or on nonaccrual status
Collateral type:				
Residential mortgages	$ 58,288	$ 6	$ 2,249	$ 8,158
Commercial mortgages	45,594	53,214	–	6,271
Commercial and industrial loans	–	–	3,936	–
Consumer auto loans	–	–	3,493	1
Student loans	64	–	–	2
Municipal bonds	–	–	–	–
Other	–	164	450	1
Total	$ 103,946	$ 53,384	$ 10,128	$ 14,433

(a) Represents assets held in nonconsolidated securitization VIEs.

Securitization activity

The following table presents assets pending securitization (i.e., assets held with the intent to securitize) at December 31, 2020, and the Firm's securitization activities for the twelve months ended December 31, 2020, related to assets either held in Firm-sponsored securitization entities that were not consolidated by the Firm or held on the Firm's consolidated balance sheet and synthetically securitized. The carrying value of the loans accounted for at fair value under U.S. GAAP approximated the proceeds upon loan sale as changes in fair value were recorded in noninterest revenue. Accordingly, there were no significant gains or losses associated with traditional securitization activities.

	Carrying value	Original principal amount		
		Traditional securitization		Synthetic securitIzation
	Assets pending securitization	Assets securitized with retained exposure	Assets securitized without retained exposure	Assets securitized with retained exposure
(in millions)	December 31, 2020	twelve months ended December 31, 2020		
Collateral type:				
Residential mortgages	$ 16,113	$ 6,792	$ 311	$ 2,002
Commercial mortgages	2,128	5,559	1,065	–
Commercial and industrial loans	–	–	–	3,936
Consumer auto loans	–	–	–	3,824
Student loans	–	–	–	–
Municipal bonds	–	–	–	–
Other	–	–	–	450
Total	$ 18,241	$ 12,351	$ 1,376	$ 10,212

EQUITY RISK IN THE BANKING BOOK

Equity investments in the banking book include principal investments, investments in unconsolidated subsidiaries, other equity investments classified within other assets and certain equity investments classified within trading assets that do not meet the definition of a covered position. These investments are held primarily for reasons other than capital gains, including client relationships, strategic initiatives and employee benefits.

Principal investments are typically privately held non-traded financial instruments representing ownership or other forms of junior capital and span multiple asset classes. These investments are made by dedicated investing businesses or as part of a broader business strategy. In general, principal investments include tax-oriented investments and investments made to enhance or accelerate the Firm's business strategies. The Firm's investments will continue to evolve in line with its strategies, including the Firm's commitment to support underserved communities and minority-owned businesses. Asset classes include tax-oriented investments (e.g., alternative energy and affordable housing investments), private equity, various debt and equity instruments, real assets and investment funds (including separate accounts).

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

- Refer to Note 8 on pages 216-220 of the 2020 Form 10-K for a discussion of COLI and the related investment strategy and asset allocation.

Investments in equity securities in the banking book are accounted for using one of the following methods:

• Equity method (which requires the Firm to recognize its proportionate share of the entity's net earnings), or fair value if the fair value option was elected, for investments in which the Firm has significant influence over operating and financing decisions (but does not own a majority of the voting equity interests).

• Fair value measurement basis for the Firm's investment companies and asset management funds accounted for under investment company guidelines, irrespective of the percentage of equity ownership interests held. These include investments in both publicly-held and privately held entities, including investments in buyouts, growth equity and venture opportunities.

• Cost less impairment (if any), plus or minus observable price changes from an identical or similar investment of the same issuer (i.e., the "measurement alternative").

Accounting and valuation policies for equity investments

- Refer to Principal risk, on page 134 of the 2020 Form 10-K for a discussion of investment risk management related to principal investments.
- Refer to Note 1 on pages 167-170 of 2020 Form 10-K for a discussion of the accounting for investments in unconsolidated subsidiaries and other non-trading (i.e., banking book) equity investments.
- Refer to Note 2 on pages 171-191 of the 2020 Form 10-K for more information on the Firm's methodologies regarding the valuation of private equity direct investments and fund investments (i.e., mutual/collective investment funds, private equity funds, hedge funds and real estate funds).

Risk-weighted assets

For equity exposures to investment funds, the Firm uses either the Full Look-Through Approach ("FLTA") or the Simple Modified Look-Through Approach ("SML-TA") to calculate RWA. For all other equity exposures, the Firm uses the Simple Risk-Weight Approach ("SRWA"). Under FLTA, RWA is calculated by computing a risk-weight on each of the underlying exposures held by the fund as if they were held directly by the Firm, then multiplying that risk-weight by the Firm's proportional ownership share of the fund. Under the SML-TA, the Firm uses a fund's prospectus to determine an appropriate risk-weight to assign to its entire exposure to the fund, which is based on the highest risk-weight that applies to any exposure the fund is permitted to hold. Under the SRWA, the Firm applies regulatory prescribed risk-weights to the adjusted carrying value of each equity exposure that is not an exposure to an investment fund.

Equity risk-weighted assets

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

December 31, 2020 (in millions)				
Risk-weight category	Exposure[a]		RWA	
0%	$ 7,113	[b]	$ –	
20%	549		117	
100%	32,766		34,731	
250%	645		1,709	
300%	14		46	
400%	1,468		6,225	
600%	72		455	
Simple Modified Look-Through Approach	103		84	
Full Look-Through Approach	22,485		15,235	
Total	65,215		58,602	

(a) Includes off-balance sheet unfunded commitments for equity investments of $6.2 billion.
(b) Consists of Federal Reserve Bank stock.

Carrying value and fair value

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

December 31, 2020 (in millions)	Carrying value	Fair value
Publicly traded	$ 26,908	$ 26,919
Non-publicly traded	31,248	39,631
Total	$ 58,156	$ 66,550

Realized gains/(losses)

Cumulative realized gains/(losses) from sales and liquidations during the three months ended December 31, 2020 were $136 million. This includes previously recognized unrealized gains/(losses) that have been reversed and booked as realized gains/(losses).

Unrealized gains/(losses)

Total net gains that have not been recognized on the Consolidated balance sheet or through earnings on equity investments in the banking book that are accounted for under the cost, measurement alternative and equity method were $8.4 billion as of December 31, 2020.

Market risk is the risk associated with the effect of changes in market factors, such as interest and foreign exchange rates, equity and commodity prices, credit spreads or implied volatilities, on the value of assets and liabilities held for both the short and long term.

- For a discussion of the Firm's Market Risk Management organization, various metrics, both statistical and non-statistical, used to assess risk and risk monitoring and control, see Market Risk Management on pages 135-142 of the 2020 Form 10-K.
- Refer to page 135 of the 2020 Form 10-K for a discussion of Managing Market Risks in response to the COVID-19 pandemic.

Measures included in market risk RWA

The following table presents the Firm's market risk-based capital and risk-weighted assets at December 31, 2020. The components of market risk RWA are discussed in detail in the Regulatory market risk capital models section on pages 29–32 of this report. RWA is calculated as risk-based capital ("RBC") multiplied by 12.5; any calculation differences are due to rounding.

Three months ended December 31, 2020 (in millions)	Risk-based capital	RWA
Internal models:		
Value-at-Risk based measure ("VBM") [(a)]	$ 1,525	$ 19,060
Stressed Value-at-Risk based measure ("SVBM") [(a)]	1,525	19,060
Incremental risk charge ("IRC")	596	7,453
Comprehensive risk measure ("CRM")	53	657
Total internal models	3,699	46,230
Non-modeled specific risk	3,977	49,723
Other charges	77	957
Total Market risk	$ 7,753	$ 96,910

(a) Currently, the firm uses the same historical observation period to calculate both VBM and SVBM.

Material portfolio of covered positions

The Firm's portfolio of covered positions under the Basel III capital rules arise predominantly from activities in CIB, which makes markets in products across fixed income, foreign exchange, equities, commodities and credit markets.

- Refer to pages 65-66 and 71-76 of the 2020 Form 10-K for a discussion of CIB's Business Segment Results.

Value-at-Risk ("VaR")

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

- Refer to pages 135-142 of the 2020 Form 10-K Market Risk Management for information on the Firm's VaR framework.

Since VaR is based on historical data, it is an imperfect measure of market risk exposure and potential future losses. In addition, based on their reliance on available historical data, limited time horizons, and other factors, VaR measures are inherently limited in their ability to measure certain risks and to predict losses, particularly those associated with market illiquidity and sudden or severe shifts in market conditions.

The Firm therefore considers other nonstatistical measures such as stress testing, in addition to VaR, to capture and manage its market risk positions.

- Refer to the stress testing section on pages 33 of this report for further information on stress testing.

Risk management VaR comparison to Regulatory VaR

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

Under the Firm's Risk Management VaR methodology, assuming current changes in market values are consistent with the historical changes used in the simulation, the Firm would expect to incur VaR "backtesting exceptions," defined as losses greater than that predicted by VaR estimates, an average of five times every 100 trading days. For risk management purposes, the Firm believes the use of a 95% confidence level with a one-day holding period provides a daily measure of risk that is closely aligned to risk management decisions made by the LOBs and Corporate and, along with other market risk measures, provides the appropriate information needed to respond to risk events. The Firm's Risk Management VaR is disclosed in its SEC filings.

As required by the Basel III capital rules, the Firm calculates Regulatory VaR assuming a 10-day holding period and an expected tail loss methodology, which approximates a 99% confidence level. Under this methodology, the Firm would expect to incur Regulatory VaR "back-testing exceptions", defined as losses greater than that predicted by Regulatory VaR estimates, on average once every 100 trading days. However, the Firm expects that, under normal market conditions, it may experience fewer "back-testing exceptions" because the Firm's Regulatory VaR models are calibrated to exclude certain diversification benefits, which generally results in higher VaR measures. The Firm's Risk Management VaR as reported in the Firm's Form 10-Q and Form 10-K does not exclude these diversification benefits.

As noted above, Regulatory VaR is applied to "covered positions" as defined by the Basel III capital rules, which may be different from the positions included in the Firm's Risk Management VaR. For example, credit derivative hedges of accrual loans are included in the Firm's Risk Management VaR, while Regulatory VaR excludes these credit derivative hedges.

Regulatory market risk capital models

VaR-Based Measure ("VBM")

The VBM is an aggregate loss measure that combines Regulatory VaR and modeled specific risk ("SR") assuming a 10-day holding period and a 99% confidence level. While Regulatory VaR measures the risk of loss from broad market movements, modeled SR captures risk factors such as event risk, idiosyncratic risk and default risk for a subset of covered positions for which the model is approved by the Firm's banking supervisors.

CIB VaR-Based Measure ("VBM")

For the three months ended December 31, 2020, average CIB VBM was $507 million, compared with CIB average Risk Management VaR of $92 million. The CIB VBM was higher due to the longer holding period (10 days), the higher confidence level (99%), differences in population, and the exclusion of the diversification benefit for certain VaR models.

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

	Three months ended December 31, 2020			
(in millions)	Avg	Min	Max	December 31, 2020
CIB VBM by risk type				
Interest rate[a]	$263	$218	$ 318	$ 243
Credit spread[a]	461	401	511	452
Foreign exchange	82	35	127	106
Equities	115	96	167	106
Commodities and other	214	119	292	198
Diversification benefit	(628) [b]	NM [c]	NM [c]	(680) [b]
Total CIB VBM	507	378	699	425
Total Firm VBM	$508	$377	$ 666	$ 432

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

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

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

The following table presents the Firm's VBM capital requirement, which is calculated as the higher of (1) the 60-day average measure scaled by the Firm's regulatory multiplier and (2) the quarter-end spot measure. As of December 31, 2020, the Firm's regulatory multiplier was 3, based on regulatory guidance.

Three months ended December 31, 2020 (in millions)	Risk-based capital	RWA
Firm modeled VBM	$ 1,525	$ 19,060

➢ Refer to pages 137–139 of the 2020 Form 10-K for additional information on Value-at-risk and Risk Management VaR in the Market Risk Management section.

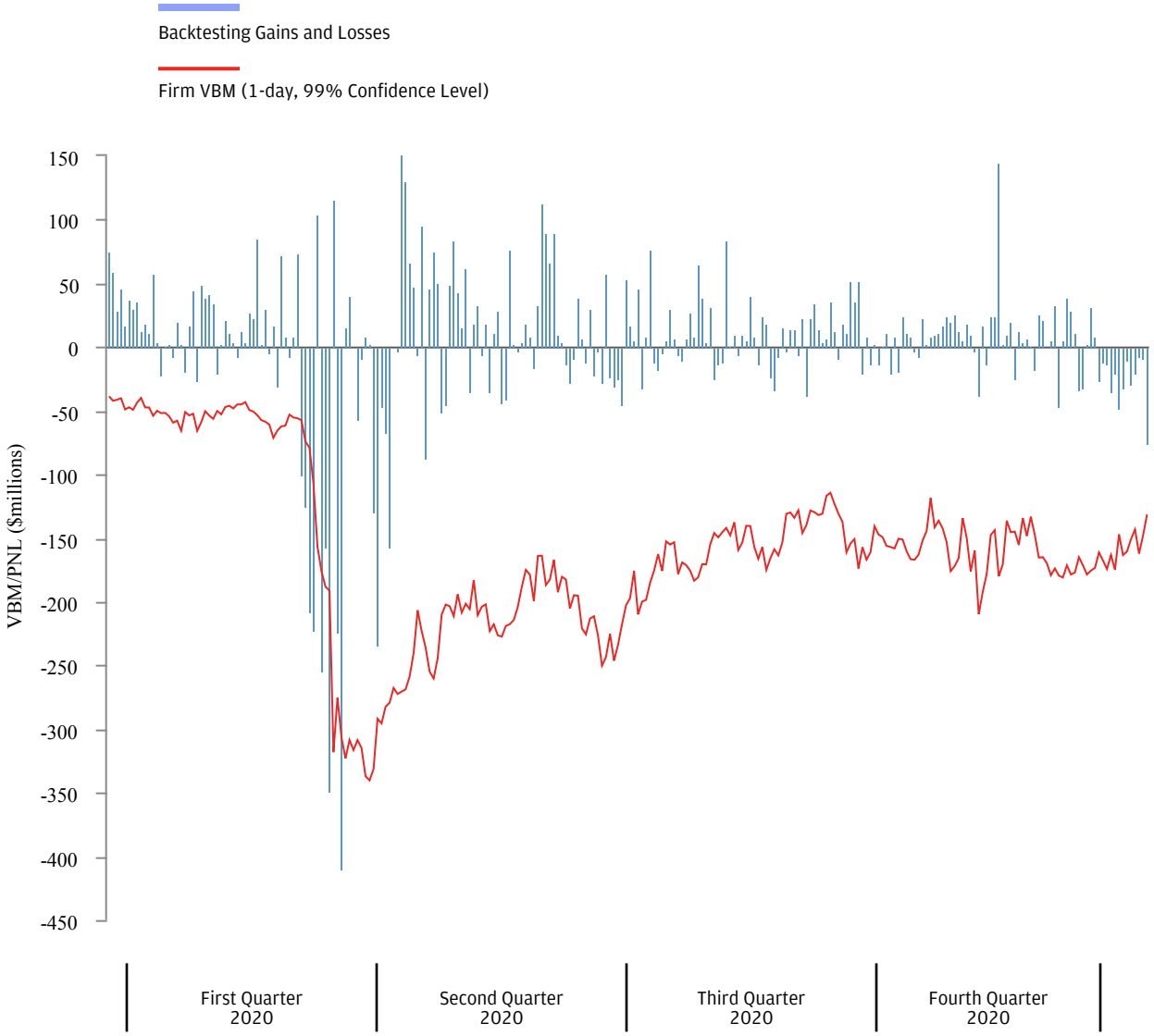
VBM backtesting

As required by Basel III capital rules, the Firm performs daily VBM model backtesting on covered positions, which compares the daily VBM results (for a one-day holding period and a 99% confidence level) with the daily gains and losses that are utilized for VBM backtesting purposes. The gains and losses in the chart below do not reflect the Firm's revenue results as they exclude select components of total net revenue, such as those associated with the execution of new transactions (i.e., intraday client-driven trading and intraday risk management activities), fees, commissions, certain valuation adjustments and net interest income. These excluded components of total net revenue may more than offset backtesting gains and losses on a particular day. The following chart compares Firmwide daily backtesting gains and losses with the Firm's VBM for the 12 months ended December 31, 2020.

The results in the chart below differ from the results of backtesting disclosed in the Market Risk section of the Firm's Form 10-K, which are based on the Firm's Risk Management VaR. For the 12 months ended December 31, 2020, the Firm observed seven backtesting exceptions and posted backtesting gains on 166 of the 260 trading days. For the three months ended December 31, 2020, the Firm observed zero backtesting exceptions and posted backtesting gains on 40 of the 65 trading days. The number of VaR backtesting exceptions observed can differ from the statistically expected number of backtesting exceptions if the current level of market volatility is materially different from the level of market volatility during the historical period used to calibrate the VaR model.

Daily Firmwide VBM Backtesting Results

12 months ended December 31, 2020



Stressed VaR-Based Measure ("SVBM")

The SVBM is an aggregate loss measure based on Regulatory VaR and SR models whose inputs are calibrated using historical data from a continuous 12-month period that reflects a period of significant financial stress relevant to the Firm's current portfolio. SVBM is calculated at least weekly assuming a 10-day holding period and a 99% confidence level. The Firm's selection of the one-year period of significant financial stress is evaluated on an ongoing basis.

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

	Three months ended December 31, 2020			
(in millions)	Avg.	Min	Max	December 31, 2020
Total CIB SVBM	$ 507	$ 378	$ 699	$ 425
Total Firm SVBM	$ 508	$ 377	$ 666	$ 432

The following table presents the Firm's SVBM capital requirement, which is calculated as the higher of (1) the 60-day average measure scaled by the Firm's regulatory multiplier and (2) the quarter-end spot measure. As of December 31, 2020, the Firm's regulatory multiplier was 3, based on regulatory guidance.

Three months ended December 31, 2020 (in millions)	Risk-based capital	RWA
Firm modeled SVBM	1,525	$ 19,060

Incremental Risk Charge ("IRC")

The IRC measure captures the risks of issuer default and credit migration that are incremental to the risks already captured in the VBM. The model is intended to measure the potential loss over a one-year holding period at a 99.9% confidence level and is applicable to debt positions that are not correlation trading or securitization positions. The IRC is calculated at least weekly.

The Firm has developed a Monte Carlo simulation-based model to compute the IRC measure. Modeling of default events is based on a multi-factor asset approach, which incorporates the effects of issuer, regional and industry risk concentrations. Credit migration risk is captured in the IRC model by an explicit simulation of credit spreads. The underlying simulation model is calibrated to provide joint distributions across all risk factors (e.g., default, spread, recovery, basis effects), including important cross-effects that can have a significant impact on the tail risk of the portfolio, such as the correlation between defaults and recoveries.

The IRC model assumes the trading positions remain constant in order to model profit and loss distributions over a one-year holding period. This approach assumes a one-year liquidity horizon for all positions and all risk factor shocks are applied to the portfolio instantaneously.

The IRC measures the potential loss in the current value of the portfolio at a 99.9% confidence level. The IRC model uses a full revaluation approach to capture the re-pricing risk of all positions due to credit migration and default events. This approach requires full economic details on all positions for re-pricing to capture the non-linear effects of risk factors on the value of the portfolio during large market moves.

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

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

	Three months ended December 31, 2020			
(in millions)	Avg.	Min	Max	December 31, 2020
CIB IRC on trading positions	$ 390	$ 224	$ 670	$ 596

The following table presents the IRC risk-based capital requirement for the CIB, which is the same as the risk measure itself. IRC reflects the higher of the quarterly average and period-end spot measure under the Basel III capital rules.

Three months ended December 31, 2020 (in millions)	Risk-based capital	RWA
Total CIB IRC	$ 596	$ 7,453

Comprehensive Risk Measure ("CRM")

The CRM captures the material price risks of portfolios of correlation trading positions. Correlation trading positions refer to client-driven, market-making activities in credit index and bespoke tranche swaps that are hedged with single-name and index credit default swap positions. The CRM risk-based capital requirement is the greater of modeled CRM and a floor, which is equal to 8% of the total specific risk add-on for such positions using a non-modeled approach.

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

The CRM model is an extension of the previously described Monte-Carlo simulation-based IRC model, and it includes additional risk factors that are relevant for index tranches, bespoke tranches, and first-to-default positions in the Firm's correlation trading portfolio. The range of risk factors simulated by the CRM model includes default

events, credit spreads, recovery rates, implied correlations and inherent basis risks within these products.

The CRM model assumes the trading positions remain constant in order to model profit and loss distributions over a one-year holding period. This approach assumes a one-year liquidity horizon for all positions and all risk factor shocks are applied to the portfolio instantaneously. The CRM measures the potential loss in the current value of the portfolio at a 99.9% confidence level. The CRM model uses a full revaluation approach to capture the repricing risk of all correlation trading positions, including the non-linear effects of risk factors on the value of the portfolio during large market moves.

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

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

	Three months ended December 31, 2020			December
(in millions)	Avg.	Min	Max	31, 2020
CIB CRM	$ 53	$ 49	$ 59	$ 49

The following table presents the CRM risk-based capital requirement for the CIB, which is the same as the risk measure itself. CRM reflects the higher of the quarterly average and period-end spot measure under the Basel III capital rules.

Three months ended December 31, 2020 (in millions)	Risk-based capital	RWA
Total CIB CRM	$ 53	$ 657

Aggregate securitization positions

- For information on the aggregate amount of on-balance sheet and off-balance sheet securitization positions with the exception of modelled correlation trading positions, which are included in this section by exposure type, refer to Securitization on page 24 of this report.

Aggregate correlation trading positions

The following table presents the net notional amount and fair value of the Firm's aggregate correlation trading positions and the associated credit hedges. Credit hedges of the correlation trading positions are included as they are considered to be part of the aggregate correlation trading positions.

December 31, 2020 (in millions)	Notional amount[(a)]	Fair value[(b)]
Positions modeled in CRM	$ 1,691	$ 39
Positions not modeled in CRM	–	–
Total correlation trading positions	$ 1,691	$ 39

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

Non-modeled specific risk

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

December 31, 2020 (in millions)	Risk-based capital	RWA
Securitization positions[(a)]	$ 308	$ 3,855
Non-securitization positions	3,669	45,868
Total Non-modeled specific risk	$ 3,977	$ 49,723

(a) Represents trading book securitization RWA only.

Other charges

Other charges reflect exposures receiving alternative capital treatments.

December 31, 2020 (in millions)	Risk-based capital	RWA
Total Firm other charges	$ 77	$ 957

Independent review of market risk regulatory capital models

A dedicated independent model risk function, the Model Risk Governance and Review group, is responsible for approving new models, as well as material changes to existing models, prior to implementation in the operating environment. Market risk regulatory capital models are in scope for this process. The critical elements of the review process are:

- An evaluation of the conceptual soundness of the model specifications such as risk factor representation of the products and the associated simulation methods;
- An analysis of model outcomes, including a comparison of the outputs with empirical experience and, where relevant, with alternative model specifications;
- An evaluation of the adequacy of model calibration procedures and model implementation testing performed by model developers.

The evaluation of the conceptual soundness of a model seeks to assess the reasonableness of model specifications, and takes into consideration the purpose of the model. This process also seeks to identify the main model assumptions, evaluate their adequacy, understand their strengths and weaknesses, and the impact that such assumptions may have on model output. The Model Risk function may requires that a remediation plan be developed for critical weaknesses that have been identified in models, which should include specific action steps and analysis to resolve deficiencies, within a specified period of time, and address the need for any compensating controls if the model is to be used in the interim.

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

While evidence of the integrity of model implementation is obtained throughout the entire review process, the Model Risk function dedicates a stand-alone work stream to assess the completeness and quality of the testing performed by model developers. The Model Risk function also evaluates the approach used by model developers to assess the numerical accuracy of the results, such as the setting of the number of trials in a Monte Carlo simulation. Additional model testing may be requested of the model development team by the Model Risk function or may be performed directly by the Model Risk function. Once models have been approved, model users and developers are responsible for maintaining a robust operating environment, and must monitor and evaluate the performance of the models on an ongoing basis. Model users and developers may seek to enhance models in response to changes in the portfolios and in product and market developments, as well as to capture improvements in available modeling techniques and systems capabilities.

➢ For additional information, refer to Estimations and Model Risk Management on page 151 of the 2020 Form 10-K .

Stress testing

Along with VaR, stress testing is an important tool used to assess risk. While VaR reflects the risk of loss due to adverse changes in markets using recent historical market behavior, stress testing reflects the risk of loss from hypothetical changes in the value of market risk sensitive positions applied simultaneously. Stress testing measures the Firm's vulnerability to losses under a range of stressed but possible economic and market scenarios. The results are used to understand the exposures responsible for those potential losses and are measured against limits.

➢ For information on the stress testing scenarios and framework, refer to Stress testing on page 140 of the 2020 Form 10-K.

➢ Refer to page 135 of the 2020 Form 10-K for a discussion of Market Risk Management in response to the COVID-19 pandemic.

OPERATIONAL RISK MANAGEMENT

Operational risk is the risk of an adverse outcome resulting from inadequate or failed internal processes or systems; human factors; or external events impacting the Firm's processes or systems; it includes compliance, conduct, legal, and estimations and model risk. Operational risk is inherent in the Firm's activities and can manifest itself in various ways, including fraudulent acts, business interruptions, cyber attacks, inappropriate employee behavior, failure to comply with applicable laws and regulations or failure of vendors to perform in accordance with their agreements. Operational Risk Management attempts to manage operational risk at appropriate levels in light of the Firm's financial position, the characteristics of its businesses, and the markets and regulatory environments in which it operates.

- Refer to pages 145-151 of the 2020 Form 10-K for a discussion of Operational Risk Management and page 98 of Capital Risk Management for operational risk RWA.

Operational Risk Measurement

- Refer to Operational Risk Management on page 145 of the 2020 Form 10-K for information related to operational risk measurement.

Other operational risks

- Refer to Operational Risk Management on pages 145-151 of the 2020 Form 10-K for information related to other operational risks that can lead to losses which are captured through the Firm's operational risk measurement processes.

INTEREST RATE RISK IN THE BANKING BOOK

Earnings-at-risk

The effect of interest rate exposure on the Firm's reported net income is important as interest rate risk represents one of the Firm's significant market risks. Interest rate risk arises not only from trading activities but also from the Firm's traditional banking activities, which include extension of loans and credit facilities, taking deposits and issuing debt as well as from the investment securities portfolio.

- Refer to pages 140-141 of the 2020 Form 10-K for a detailed discussion of Earnings-at-risk.
- Refer to the table on page 136 of the 2020 Form 10-K for a summary of positions included in earnings-at-risk.

The SLR is defined as Tier 1 capital under the Basel III capital rules divided by the Firm's total leverage exposure. The tables below present the components of the Firm's SLR as of December 31, 2020 with on-balance sheet amounts calculated as the quarterly average and off-balance sheet amounts calculated as the average of each of the three month's period-end balances.

Summary comparison of accounting assets and total leverage exposure

December 31, 2020 (in millions, except ratios)	Basel III Advanced CECL Transitional
Basel III Advanced Tier 1 capital	**$ 234,844**
Total spot assets	3,386,071
Add: Adjustments for frequency of calculations[(a)]	13,747
Total average assets	**3,399,818**
Less adjustments for:	
Adjustments for deductions from Tier 1 capital[(b)]	48,438
Exclusions for U.S. Treasuries and Federal Reserve Bank deposits	**681,755**
Add adjustments for:	
Adjustment for derivative transactions	349,680
Adjustment for repo-style transactions	41,488
Adjustment for off-balance sheet exposures[(c)]	335,386
Other[(d)]	5,363
Total leverage exposure	**$ 3,401,542**
Basel III Advanced SLR	**6.9 %**

(a) The adjustment for frequency of calculations represents the difference between total spot assets at December 31, 2020, and average assets for the three months ended December 31, 2020.
(b) Adjustments for assets that are subject to deduction from Tier 1 capital are predominantly goodwill and other intangible assets.
(c) Off-balance sheet exposures are calculated as the average of the three month-end spot balances during the reporting quarter.
(d) Includes adjustments for the CECL capital transition provisions and the exclusion of assets purchased from money market mutual fund clients pursuant to nonrecourse advances provided under the MMLF.

Derivative transactions

The following table presents the components of total derivative exposure.

(in millions)	December 31, 2020
Replacement cost for all derivative transactions[(a)]	$ 78,575
Add-on amounts for potential future exposure ("PFE") for all derivative transactions	331,015
Gross-up for collateral posted in derivative transactions if collateral is deducted from on-balance sheet assets	1,281
Less: Exempted exposures to central counterparties ("CCPs") in cleared transactions	16,480
Adjusted effective notional principal amount of sold credit protection	634,877
Less: Effective notional principal amount offsets and PFE deductions for sold credit protection	601,041
Total derivative exposure[(b)]	**428,227**
Less: On-balance-sheet average derivative receivables	78,547
Adjustment for derivative transactions	**$ 349,680**

(a) Includes cash collateral received of $3.5 billion.
(b) Receivables for cash variation margin that are posted under a qualifying derivative contract where the Firm has obtained an appropriate legal opinion with respect to master netting agreements with the same counterparty, and where other relevant criteria under U.S. GAAP are met, are netted against derivative liabilities and are not included in on-balance sheet assets.

Repo-style transactions

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

(in millions)	December 31, 2020
Gross assets for repo-style transactions[(a)]	$ 841,634
Less: amounts netted[(b)]	366,163
Counterparty credit risk for all repo-style transactions	42,614
Exposure amount for repo-style transactions where the Firm acts as an agent[(c)]	47
Total exposures for repo-style exposures	**518,132**
Less: on-balance sheet amounts	
Securities purchased under resale agreements	327,499
Securities borrowed	149,145
Adjustment for repo-style transactions	**$ 41,488**

(a) Excludes the value of securities received as collateral where the Firm as securities lender has not sold or rehypothecated the collateral securities received.
(b) Reflects netting of transactions where the Firm has obtained an appropriate legal opinion with respect to master netting agreements with the same counterparty, and where other relevant criteria under U.S. GAAP are met.
(c) Includes exposures where the Firm's guarantee is greater than the difference between the fair value of the security or cash the Firm's customer has lent and the value of the collateral provided.

Other off-balance sheet exposures

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

(in millions)	December 31, 2020
Off-balance sheet exposures - gross notional amounts	$ 1,231,043
Less: Adjustments for conversion to credit equivalent amounts	895,657
Adjustment for other off-balance sheet exposures	**$ 335,386**

Valuation process

For a discussion of the Firm's valuation methodologies for assets, liabilities and lending-related commitments measured at fair value and the fair value hierarchy, refer to Valuation Process on pages 171-191 in the Note 2 of the 2020 Form 10-K.

- Refer to Note 2 on page 188 of the the 2020 Form 10-K, for information on credit and funding valuation adjustments.

References to JPMorgan Chase's 2019 Form 10-K and the 2020 Form 10-K

JPMorgan Chase's the 2020 Form 10-K contains important information on the Firm's risk management policies and practices, capital management processes, and accounting policies relevant to this report. Specific references are listed below.

Management's discussion and analysis

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