UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-Q

Quarterly report pursuant to Section 13 or 15(d) of
the Securities Exchange Act of 1934

For the quarterly period ended September 30, 2019	Commission file number 1-5805

JPMorgan Chase & Co.

(Exact name of registrant as specified in its charter)

Delaware	13-2624428
(State or other jurisdiction of incorporation or organization)	(I.R.S. employer identification no.)
383 Madison Avenue,	
New York, New York	10179
(Address of principal executive offices)	(Zip Code)

Registrant's telephone number, including area code: (212) 270-6000
Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common stock	JPM	The New York Stock Exchange
Depositary Shares, each representing a one-four hundredth interest in a share of 5.45% Non-Cumulative Preferred Stock, Series P	JPM PR A	The New York Stock Exchange
Depositary Shares, each representing a one-four hundredth interest in a share of 6.125% Non-Cumulative Preferred Stock, Series Y	JPM PR F	The New York Stock Exchange
Depositary Shares, each representing a one-four hundredth interest in a share of 6.10% Non-Cumulative Preferred Stock, Series AA	JPM PR G	The New York Stock Exchange
Depositary Shares, each representing a one-four hundredth interest in a share of 6.15% Non-Cumulative Preferred Stock, Series BB	JPM PR H	The New York Stock Exchange
Depositary Shares, each representing a one-four hundredth interest in a share of 5.75% Non-Cumulative Preferred Stock, Series DD	JPM PR D	The New York Stock Exchange
Depositary Shares, each representing a one-four hundredth interest in a share of 6.00% Non-Cumulative Preferred Stock, Series EE	JPM PR C	The New York Stock Exchange
Alerian MLP Index ETNs due May 24, 2024	AMJ	NYSE Arca, Inc.
Guarantee of Callable Step-Up Fixed Rate Notes due April 26, 2028 of JPMorgan Chase Financial Company LLC	JPM/28	The New York Stock Exchange
Guarantee of Cushing 30 MLP Index ETNs due June 15, 2037 of JPMorgan Chase Financial Company LLC	PPLN	NYSE Arca, Inc.

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. ☒ Yes ☐ No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). ☒ Yes ☐ No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	☒	Accelerated filer	☐
Non-accelerated filer	☐	Smaller reporting company	☐
		Emerging growth company	☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). ☐ Yes ☒ No

Number of shares of common stock outstanding as of September 30, 2019: 3,136,484,924

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JPMorgan Chase & Co.
Consolidated financial highlights (unaudited)

As of or for the period ended, (in millions, except per share, ratio, headcount data and where otherwise noted)						Nine months ended Sept. 30,	
	3Q19	2Q19	1Q19	4Q18	3Q18	**2019**	2018
Selected income statement data							
Total net revenue	**$ 29,341**	$ 28,832	$ 29,123	$ 26,109	$ 27,260	**$ 87,296**	$ 82,920
Total noninterest expense	**16,422**	16,341	16,395	15,720	15,623	**49,158**	47,674
Pre-provision profit	**12,919**	12,491	12,728	10,389	11,637	**38,138**	35,246
Provision for credit losses	**1,514**	1,149	1,495	1,548	948	**4,158**	3,323
Income before income tax expense	**11,405**	11,342	11,233	8,841	10,689	**33,980**	31,923
Income tax expense	**2,325**	1,690	2,054	1,775	2,309	**6,069**	6,515
Net income	**$ 9,080**	$ 9,652	$ 9,179	$ 7,066	$ 8,380	**$ 27,911**	$ 25,408
Earnings per share data							
Net income: Basic	**$ 2.69**	$ 2.83	$ 2.65	$ 1.99	$ 2.35	**$ 8.17**	$ 7.04
Diluted	**2.68**	2.82	2.65	1.98	2.34	**8.15**	7.00
Average shares: Basic	**3,198.5**	3,250.6	3,298.0	3,335.8	3,376.1	**3,248.7**	3,416.5
Diluted	**3,207.2**	3,259.7	3,308.2	3,347.3	3,394.3	**3,258.0**	3,436.2
Market and per common share data							
Market capitalization	**369,133**	357,479	328,387	319,780	375,239	**369,133**	375,239
Common shares at period-end	**3,136.5**	3,197.5	3,244.0	3,275.8	3,325.4	**3,136.5**	3,325.4
Book value per share	**75.24**	73.88	71.78	70.35	69.52	**75.24**	69.52
Tangible book value per share (“TBVPS”)[(a)]	**60.48**	59.52	57.62	56.33	55.68	**60.48**	55.68
Cash dividends declared per share	**0.90**	0.80	0.80	0.80	0.80	**2.50**	1.92
Selected ratios and metrics							
Return on common equity (“ROE”)[(b)]	**15%**	16%	16%	12%	14%	**15%**	14%
Return on tangible common equity (“ROTCE”)[(a)(b)]	**18**	20	19	14	17	**19**	18
Return on assets[(b)]	**1.30**	1.41	1.39	1.06	1.28	**1.37**	1.31
Overhead ratio	**56**	57	56	60	57	**56**	57
Loans-to-deposits ratio	**62**	63	64	67	65	**62**	65
Liquidity coverage ratio (“LCR”) (average)	**115**	113	111	113	115	**115**	115
Common equity Tier 1 (“CET1”) capital ratio[(c)]	**12.3**	12.2	12.1	12.0	12.0	**12.3**	12.0
Tier 1 capital ratio[(c)]	**14.1**	14.0	13.8	13.7	13.6	**14.1**	13.6
Total capital ratio[(c)]	**15.9**	15.8	15.7	15.5	15.4	**15.9**	15.4
Tier 1 leverage ratio[(c)]	**7.9**	8.0	8.1	8.1	8.2	**7.9**	8.2
Supplementary leverage ratio (“SLR”)	**6.3**	6.4	6.4	6.4	6.5	**6.3**	6.5
Selected balance sheet data (period-end)							
Trading assets	**$ 495,875**	$ 523,373	$ 533,402	$ 413,714	$ 419,827	**$ 495,875**	$ 419,827
Investment securities	**394,251**	307,264	267,365	261,828	231,398	**394,251**	231,398
Loans	**945,218**	956,889	956,245	984,554	954,318	**945,218**	954,318
Core loans	**899,572**	908,971	905,943	931,856	899,006	**899,572**	899,006
Average core loans	**900,567**	905,786	916,567	907,271	894,279	**907,581**	877,774
Total assets	**2,764,661**	2,727,379	2,737,188	2,622,532	2,615,183	**2,764,661**	2,615,183
Deposits	**1,525,261**	1,524,361	1,493,441	1,470,666	1,458,762	**1,525,261**	1,458,762
Long-term debt	**296,472**	288,869	290,893	282,031	270,124	**296,472**	270,124
Common stockholders’ equity	**235,985**	236,222	232,844	230,447	231,192	**235,985**	231,192
Total stockholders’ equity	**264,348**	263,215	259,837	256,515	258,956	**264,348**	258,956
Headcount	**257,444**	254,983	255,998	256,105	255,313	**257,444**	255,313
Credit quality metrics							
Allowance for credit losses	**$ 14,400**	$ 14,295	$ 14,591	$ 14,500	$ 14,225	**$ 14,400**	$ 14,225
Allowance for loan losses to total retained loans	**1.42%**	1.39%	1.43%	1.39%	1.39%	**1.42%**	1.39%
Allowance for loan losses to retained loans excluding purchased credit-impaired loans[(d)]	**1.32**	1.28	1.28	1.23	1.23	**1.32**	1.23
Nonperforming assets	**$ 5,343**	$ 5,260	$ 5,616	$ 5,190	$ 5,034	**$ 5,343**	$ 5,034
Net charge-offs	**1,371**	1,403	1,361	1,236	1,033	**4,135**	3,620
Net charge-off rate	**0.58%**	0.60%	0.58%	0.52%	0.43%	**0.59%**	0.52%

(a) TBVPS and ROTCE are non-GAAP financial measures. Refer to Explanation and Reconciliation of the Firm’s Use of Non-GAAP Financial Measures and Key Performance Measures on pages 19–20 for a further discussion of these measures.
(b) Quarterly ratios are based upon annualized amounts.
(c) The Basel III capital rules became fully phased-in effective January 1, 2019. During 2018, the required capital measures were subject to the transitional rules and as of December 31, 2018 and September 30, 2018, were the same on a fully phased-in and on a transitional basis. Refer to Key performance measures on page 59 and Capital Risk Management on pages 85-94 of JPMorgan Chase’s 2018 Form 10-K and pages 45–49 of this Form 10-Q for additional information on these measures.
(d) Excludes the impact of residential real estate purchased credit-impaired (“PCI”) loans, a non-GAAP financial measure. Refer to Explanation and Reconciliation of the Firm’s Use of Non-GAAP Financial Measures and Key Performance Measures on pages 19–20, and the Allowance for credit losses on pages 67–68 for a further discussion of these measures.

The following is Management's discussion and analysis of the financial condition and results of operations ("MD&A") of JPMorgan Chase & Co. ("JPMorgan Chase" or the "Firm") for the third quarter of 2019.

This Quarterly Report on Form 10-Q for the third quarter of 2019 ("Form 10-Q") should be read together with JPMorgan Chase's Annual Report on Form 10-K for the year ended December 31, 2018 ("2018 Form 10-K"). Refer to the Glossary of terms and acronyms and line of business metrics on pages 168–175 for definitions of terms and acronyms used throughout this Form 10-Q.

This document contains statements that are forward-looking within the meaning of the Private Securities Litigation Reform Act of 1995. These statements are based on the current beliefs and expectations of JPMorgan Chase's management and are subject to significant risks and uncertainties. Refer to Forward-looking Statements on page 79 of this Form 10-Q and Part I, Item 1A, Risk factors, on pages 7–28 of the 2018 Form 10-K for a further discussion of certain of those risks and uncertainties and the factors that could cause JPMorgan Chase's actual results to differ materially because of those risks and uncertainties.

JPMorgan Chase & Co. (NYSE: JPM), a financial holding company incorporated under Delaware law in 1968, is a leading global financial services firm and one of the largest banking institutions in the United States of America ("U.S."), with operations worldwide; JPMorgan Chase had $2.8 trillion in assets and $264.3 billion in stockholders' equity as of September 30, 2019. 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 32 states and Washington, D.C. as of September 30, 2019. JPMorgan Chase's principal nonbank 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 in the United Kingdom ("U.K.") is J.P. Morgan Securities plc, a subsidiary of JPMorgan Chase Bank, N.A.

For management reporting purposes, the Firm's activities are organized into four major reportable business segments, as well as a Corporate segment. The Firm's consumer business segment is Consumer & Community Banking ("CCB"). The Firm's wholesale business segments are Corporate & Investment Bank ("CIB"), Commercial Banking ("CB"), and Asset & Wealth Management ("AWM"). Refer to Note 31 of JPMorgan Chase's 2018 Form 10-K for a description of the Firm's business segments and the products and services they provide to their respective client bases.

EXECUTIVE OVERVIEW

This executive overview of the MD&A highlights selected information and does not contain all of the information that is important to readers of this Form 10-Q. For a complete description of the trends and uncertainties, as well as the risks and critical accounting estimates affecting the Firm and its various lines of business, this Form 10-Q and the 2018 Form 10-K should be read together and in their entirety.

Financial performance of JPMorgan Chase

(unaudited) As of or for the period ended, (in millions, except per share data and ratios)	Three months ended September 30,			Nine months ended September 30,		
	2019	2018	Change	**2019**	2018	Change
Selected income statement data						
Total net revenue	**$ 29,341**	$ 27,260	8%	**$ 87,296**	$ 82,920	5%
Total noninterest expense	**16,422**	15,623	5	**49,158**	47,674	3
Pre-provision profit	**12,919**	11,637	11	**38,138**	35,246	8
Provision for credit losses	**1,514**	948	60	**4,158**	3,323	25
Net income	**9,080**	8,380	8	**27,911**	25,408	10
Diluted earnings per share	**$ 2.68**	$ 2.34	15	**$ 8.15**	$ 7.00	16
Selected ratios and metrics						
Return on common equity	**15%**	14%		**15%**	14%	
Return on tangible common equity	**18**	17		**19**	18	
Book value per share	**$ 75.24**	$ 69.52	8	**$ 75.24**	$ 69.52	8
Tangible book value per share	**60.48**	55.68	9	**60.48**	55.68	9
Capital ratios[(a)]						
CET1	**12.3%**	12.0%		**12.3%**	12.0%	
Tier 1 capital	**14.1**	13.6		**14.1**	13.6	
Total capital	**15.9**	15.4		**15.9**	15.4	

(a) The Basel III capital rules became fully phased-in effective January 1, 2019. During 2018, the required capital measures were subject to the transitional rules and as of September 30, 2018, was the same on a fully phased-in and on a transitional basis. Refer to Key performance measures on page 59 and Capital Risk Management on pages 85-94 of JPMorgan Chase's 2018 Form 10-K and pages 45-49 of this Form 10-Q for additional information on these measures.

Comparisons noted in the sections below are for the third quarter of 2019 versus the third quarter of 2018, unless otherwise specified.

Firmwide overview

JPMorgan Chase reported strong results in the third quarter of 2019, with net income of $9.1 billion, or $2.68 per share, on record net revenue of $29.3 billion. The Firm reported ROE of 15% and ROTCE of 18%.

- The Firm had net income of $9.1 billion, up 8%.
- Total net revenue increased 8%. Net interest income was $14.2 billion, up 2%, driven by continued balance sheet growth and mix, largely offset by the impact of rates. Noninterest revenue was $15.1 billion, up 13%, and included approximately $350 million of gains related to certain loan sales in Home Lending. Excluding these gains, the increase in noninterest revenue was largely driven by results in Fixed Income Markets in the CIB, as well as Home Lending and Auto in CCB.
- Noninterest expense was $16.4 billion, up 5%, driven by higher volume- and revenue-related expenses and investments, including compensation and auto lease depreciation, partially offset by lower FDIC charges.
- The provision for credit losses was $1.5 billion, up $566 million, largely as a result of net reductions in the allowance for credit losses and net recoveries in the prior year.
- The total allowance for credit losses was $14.4 billion at September 30, 2019, and the Firm had a loan loss coverage ratio of 1.42%, compared with 1.39% in the prior year; excluding the PCI portfolio, the equivalent ratio was 1.32%, compared with 1.23% in the prior year. The Firm's nonperforming assets totaled $5.3 billion at September 30, 2019, an increase from $5.0 billion in the prior year, reflecting increases in the wholesale portfolio related to select client downgrades, largely offset by improved credit performance in the consumer portfolio.
- Firmwide average total loans were flat at $947 billion, or up 3% excluding the impact of certain loan sales in Home Lending.

Selected capital-related metrics

- The Firm's CET1 capital was $188 billion, and the Standardized and Advanced CET1 ratios were 12.3% and 13.1%, respectively.
- The Firm's supplementary leverage ratio ("SLR") was 6.3% at September 30, 2019.
- The Firm continued to grow tangible book value per share ("TBVPS"), ending the third quarter of 2019 at $60.48, up 9%.

ROTCE and TBVPS are non-GAAP financial measures. Refer to Explanation and Reconciliation of the Firm's Use of Non-GAAP Financial Measures and Key Performance Measures on pages 19–20 for a further discussion of each of these measures.

Business segment highlights

Selected business metrics for each of the Firm's four lines of business are presented below for the third quarter of 2019.

Segment	Highlights
CCB ROE 32%	• Average loans down 4%; Home Lending loans down 12% impacted by loan sales; credit card loans up 8% • Client investment assets up 13%; average deposits up 3% • Credit card sales volume up 10% and merchant processing volume up 11%
CIB ROE 13%	• Maintained #1 ranking for Global Investment Banking fees with 9.3% wallet share YTD • Total Markets revenue of $5.1 billion, up 14%
CB ROE 16%	• Gross Investment Banking revenue of $700 million, up 20% • Average client deposits of $173 billion, up 3%
AWM ROE 24%	• Average loan balances up 7% • Assets under management (AUM) of $2.2 trillion, up 8%

Refer to the Business Segment Results on pages 21-43 for a detailed discussion of results by business segment.

Credit provided and capital raised

JPMorgan Chase continues to support consumers, businesses and communities around the globe. The Firm provided new and renewed credit and raised capital for wholesale and consumer clients during the first nine months of 2019, consisting of:

Amount	Description
$1.7 trillion	Total credit provided and capital raised
$188 billion	Credit for consumers
$25 billion	Credit for U.S. small businesses
$630 billion	Credit for corporations
$785 billion	Capital raised for corporate clients and non-U.S. government entities
$53 billion	Credit and capital raised for nonprofit and U.S. government entities[(a)]

(a) Includes states, municipalities, hospitals and universities.

2019 outlook

These current expectations are forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Such forward-looking statements are based on the current beliefs and expectations of JPMorgan Chase's management and are subject to significant risks and uncertainties. Refer to Forward-Looking Statements on page 79 of this Form 10-Q and Risk Factors on pages 7–28 of JPMorgan Chase's 2018 Form 10-K for a further discussion of certain of those risks and uncertainties and the other factors that could cause JPMorgan Chase's actual results to differ materially because of those risks and uncertainties. There is no assurance that actual results in the full year of 2019 will be in line with the outlook set forth below, and the Firm does not undertake to update any forward-looking statements.

JPMorgan Chase's current outlook for the remainder of 2019 should be viewed against the backdrop of the global and U.S. economies, financial markets activity, the geopolitical environment, the competitive environment, client and customer activity levels, and regulatory and legislative developments in the U.S. and other countries where the Firm does business. Each of these factors will affect the performance of the Firm and its lines of business. The Firm expects that it will continue to make appropriate adjustments to its businesses and operations in response to ongoing developments in the business, economic, regulatory and legal environments in which it operates.

Firmwide

- Management expects full-year 2019 net interest income, on a managed basis, to be less than $57.5 billion, market dependent. This estimate is based on stable long-end rates and assumes no more federal funds rate cuts in 2019.
- Management expects Firmwide adjusted expense for the full-year 2019 to be approximately $65.5 billion.
- Management expects full-year 2019 net charge-offs to be approximately $5.5 billion.

Business Developments

Expected departure of the U.K. from the EU

The U.K.'s expected departure from the EU, which is commonly referred to as "Brexit," is scheduled to occur not later than January 31, 2020.

The Firm continues to execute the relevant elements of its Firmwide Brexit Implementation program with the objective of delivering the Firm's capabilities to its EU clients on "day one" of any departure by the U.K. from the EU, whether or not an agreement has been reached to allow an orderly withdrawal.

The principal operational risks associated with Brexit continue to be the potential for disruption caused by insufficient preparations by individual market participants or in the overall market ecosystem, and risks related to potential disruptions of connectivity among market participants. Although legislative and regulatory actions taken by the EU and the U.K. have mitigated some of the significant market-wide risks, there continues to be regulatory and legal uncertainty with respect to various matters including contract continuity and access by market participants to liquidity in certain products, such as products subject to potentially conflicting U.K. and EU regulatory requirements in relation to eligible trading venues, including certain cross-border derivative contracts and equities that are listed on both U.K. and EU exchanges.

As discussed in Business Developments on page 46 of the 2018 Form 10-K, the Firm is focused on the following key areas to ensure continuation of service to its EU clients: regulatory and legal entity readiness; client readiness; and business and operational readiness. Following are the significant updates from the matters discussed in the 2018 Form 10-K.

Regulatory and legal entity readiness

The Firm's legal entities in Germany, Luxembourg and Ireland are now prepared and licensed to provide services to the Firm's EU clients, including after any departure by the U.K. from the EU.

Client readiness

The agreements covering a significant proportion of the Firm's EU client activity have been re-documented to other EU legal entities to help facilitate continuation of service. The Firm continues to actively engage with clients that have not completed re-documentation to ensure preparedness both in terms of documentation and any operational changes that may be required. The Firm may be negatively impacted by any operational disruption stemming from delays of or lapses in the readiness of other market participants or market infrastructures.

Business and operational readiness

The Firm relocated certain employees during the first quarter of 2019. During the second quarter of 2019, the Firm added specific employees to certain EU legal entities, where appropriate, to support the level of client activity that has been migrated. However, the Firm's final staffing plan will depend upon the timing and terms of any withdrawal by the U.K. from the EU.

If Brexit is further delayed due to a transition deal or another mechanism, the Firm will continue to review the timing and extent of any further expansion of activities in its EU legal entities, as appropriate. The Firm continues to closely monitor legislative developments, and its implementation plan allows for flexibility given the continued uncertainties.

LIBOR transition

The Firm continues to develop and implement plans to appropriately mitigate the risks associated with the expected discontinuation of certain unsecured benchmark interest rates, including the London Interbank Offered Rate ("LIBOR") and other Interbank Offered Rates ("IBORs"). In particular, the Firm:

- has implemented or is in the process of implementing fallback language for LIBOR-linked syndicated loans, securitizations, floating rate notes and bi-lateral business loans based on the recommendations of the Alternative Reference Rates Committee, and has started to introduce the Secured Overnight Financing Rate as a replacement benchmark rate for certain of these products;
- continues to monitor the transition relief being considered by the Financial Accounting Standards Board ("FASB") and International Accounting Standards Board ("IASB") concerning the accounting for contract modifications and hedge accounting; and
- continues to engage with regulators and clients as the transition from IBORs progresses.

Refer to Business Developments on page 47 of the 2018 Form 10-K for a discussion of the Firm's initiatives to address the expected discontinuation of LIBOR and other IBORs.

CONSOLIDATED RESULTS OF OPERATIONS

This section provides a comparative discussion of JPMorgan Chase's Consolidated Results of Operations on a reported basis for the three and nine months ended September 30, 2019 and 2018, unless otherwise specified. Factors that relate primarily to a single business segment are discussed in more detail within that business segment. Refer to pages 76-77 of this Form 10-Q and pages 141-143 of JPMorgan Chase's 2018 Form 10-K for a discussion of the Critical Accounting Estimates Used by the Firm that affect the Consolidated Results of Operations.

Revenue

	Three months ended September 30,			Nine months ended September 30,		
(in millions)	**2019**	2018	Change	**2019**	2018	Change
Investment banking fees	**$ 1,967**	$ 1,832	7%	**$ 5,658**	$ 5,736	(1)%
Principal transactions	**3,449**	2,964	16	**11,239**	10,698	5
Lending- and deposit-related fees	**1,626**	1,542	5	**4,643**	4,514	3
Asset management, administration and commissions	**4,351**	4,310	1	**12,818**	12,923	(1)
Investment securities gains/(losses)	**78**	(46)	NM	**135**	(371)	NM
Mortgage fees and related income	**887**	262	239	**1,562**	1,051	49
Card income	**1,283**	1,328	(3)	**3,923**	3,623	8
Other income[(a)]	**1,472**	1,160	27	**4,239**	4,041	5
Noninterest revenue	**15,113**	13,352	13	**44,217**	42,215	5
Net interest income	**14,228**	13,908	2	**43,079**	40,705	6
Total net revenue	**$ 29,341**	$ 27,260	8%	**$ 87,296**	$ 82,920	5%

(a) Included operating lease income of $1.4 billion and $1.2 billion for the three months ended September 30, 2019 and 2018, respectively and $4.0 billion and $3.3 billion for the nine months ended September 30, 2019 and 2018, respectively.

Quarterly results

Investment banking fees increased reflecting:

- higher debt underwriting fees, on wallet share gains despite a decline in industry-wide fees, driven by participation in large acquisition financing deals and increased activity in investment-grade bonds
- higher equity underwriting fees driven by wallet share gains primarily in the IPO and convertible markets,

partially offset by

- lower advisory fees driven by a decline in industry-wide fees compared with a strong prior year.

Refer to CIB segment results on pages 28-33 and Note 5 for additional information.

Principal transactions revenue increased reflecting:

- higher revenue in CIB, primarily driven by
  - strong performance across products in Fixed Income Markets, primarily in Rates, agency mortgage trading within Securitized Products, and Commodities, compared with the prior year, which was impacted by less favorable market conditions,

  partially offset by

  - lower revenue in Equity Markets, primarily in derivatives, driven by lower client activity and less favorable market conditions, compared with a strong prior year, and
- in Corporate, net gains on certain legacy private equity investments compared with net losses in the prior year.

Principal transactions revenue in CIB may have offsets across other revenue lines, including net interest income. The Firm assesses its Markets business performance on a total revenue basis.

Refer to CIB, AWM and Corporate segment results on pages 28-33, pages 38-41 and pages 42-43, and Note 5 for additional information.

Lending- and deposit-related fees increased primarily due to higher deposit-related fees in CCB, reflecting growth in customer accounts and transactions.

Refer to CCB segment results on pages 22-27, CIB on pages 28-33 and CB on pages 34-37, respectively, and Note 5 for additional information.

Asset management, administration and commissions revenue increased driven by higher asset management fees in CCB from growth in client investment assets.

Refer to CCB and AWM segment results on pages 22-27 and pages 38-41 , respectively, and Note 5 for additional information.

Investment securities gains/(losses) primarily reflect the impact of repositioning the investment securities portfolio. Refer to Corporate segment results on pages 42-43 and Note 9 for additional information.

Mortgage fees and related income increased driven by:

- higher net mortgage production revenue reflecting approximately $350 million of gains on the sale of certain loans, as well as higher production volumes and margins
- net mortgage servicing revenue, which remained relatively flat, reflecting lower operating revenue driven by the impact of reclassifying certain loans to held-for-sale and faster prepayment speeds on lower rates, offset by favorable MSR risk management results.

Refer to CCB segment results on pages 22–27, Note 5 and 14 for further information.

Card income decreased reflecting higher rewards costs and partner payments, predominantly offset by higher interchange income and merchant processing fees on higher volumes.

Refer to CCB segment results on pages 22–27 and Note 5 for further information.

Other income increased reflecting:

- higher operating lease income from growth in auto operating lease volume in CCB
- losses in the prior year on certain investments in CIB and Corporate,

partially offset by

- lower other income in CIB associated with increased amortization on a higher level of alternative energy investments. The increased amortization was more than offset by the lower income tax expense from the associated tax credits.

Refer to Note 5 for further information.

Net interest income increased driven by continued balance sheet growth and changes in mix, largely offset by the net impact of rates. The Firm's average interest-earning assets were $2.4 trillion, up $162 billion, and the net interest yield on these assets, on a fully taxable-equivalent ("FTE") basis, was 2.41%, a decrease of 12 basis points. The net interest yield excluding CIB Markets was 3.23%, a decrease of 7 basis points. Net interest yield excluding CIB markets is a non-GAAP financial measure. Refer to the Consolidated average balance sheets, interest and rates schedule on pages 166–167 for further details; and the Explanation and Reconciliation of the Firm's Use of Non-GAAP Financial Measures and Key Performance Measures on pages 19–20 for a further discussion of Net interest yield excluding CIB markets.

Year-to-date results

Investment banking fees were relatively flat reflecting:

- lower advisory and equity underwriting fees driven by a decline in industry-wide fees despite wallet share gains,

offset by

- higher debt underwriting fees on wallet share gains despite a decline in industry-wide fees, driven by participation in large acquisition financing deals

Principal transactions revenue increased reflecting:

- higher revenue in CIB, which included a gain on the IPO of Tradeweb. Excluding this gain, the increase in CIB's revenue was driven by:
  - higher revenue in Fixed Income Markets, primarily in agency mortgage trading within Securitized Products, and Commodities, partially offset by Currencies & Emerging Markets
  - favorable changes in funding spreads on derivatives in Credit Adjustments & Other,

  partially offset by

  - lower revenue in Equity Markets driven by lower client activity in derivatives

the net increase in CIB was partially offset by

- lower revenue in AWM, related to hedges on certain investments, which was more than offset by higher valuation gains on the related investments reflected in other income,
- Corporate was relatively flat, reflecting
  - losses on cash deployment transactions in Treasury and CIO, which were more than offset by the related net interest income earned on those transactions, and
  - lower net valuation losses on certain legacy private equity investments.

Principal transactions revenue in CIB may have offsets across other revenue lines, including net interest income. The Firm assesses its Markets business performance on a total revenue basis.

Lending- and deposit-related fees increased primarily due to higher deposit-related fees in CCB, reflecting growth in customer accounts and transactions.

Asset management, administration and commissions revenue was relatively flat reflecting:

- lower asset management fees in AWM driven by a shift in the mix toward lower fee products,

largely offset by

- higher asset management fees in CCB from growth in client investment assets.

Investment securities gains/(losses) primarily reflect the impact of repositioning the investment securities portfolio.

Mortgage fees and related income increased driven by:

- higher net mortgage production revenue reflecting gains on sales of certain loans, as well as higher mortgage production margins and volumes,

partially offset by

- lower net mortgage servicing revenue driven by
  - lower operating revenue reflecting faster prepayment speeds on lower rates and the impact of reclassifying certain loans to held-for-sale, as well as
  - lower MSR risk management results reflecting updates to model inputs.

Card income increased reflecting the absence of the prior-year adjustment of approximately $330 million to the credit card rewards liability.

Other income increased reflecting:

- higher operating lease income from growth in auto operating lease volume in CCB, and
- higher investment valuation gains in AWM, which were largely offset by the impact of the related hedges reflected in principal transactions revenue,

partially offset by

- lower other income in CIB associated with increased amortization on a higher level of alternative energy investments. The increased amortization was more than offset by the lower income tax expense from the associated tax credits.

The prior year included:

- $505 million of fair value gains related to the adoption of the recognition and measurement accounting guidance for certain equity investments previously held at cost in the first quarter of 2018, and
- losses on certain investments in CIB and Corporate.

Net interest income increased driven by continued balance sheet growth and changes in mix. The Firm's average interest-earning assets were $2.3 trillion, up $136 billion, and the net interest yield on these assets, on an FTE basis, was 2.49%, a decrease of 1 basis point. The net interest yield excluding CIB Markets was 3.34%, an increase of 13 basis points. Net interest yield excluding CIB markets is a non-GAAP financial measure.

Provision for credit losses

	Three months ended September 30,			Nine months ended September 30,		
(in millions)	**2019**	2018	Change	**2019**	2018	Change
Consumer, excluding credit card	**$ (61)**	$ (242)	75%	**$ (265)**	$ (152)	(74)%
Credit card	**1,375**	1,223	12	**4,017**	3,557	13
Total consumer	**1,314**	981	34	**3,752**	3,405	10
Wholesale	**200**	(33)	NM	**406**	(82)	NM
Total provision for credit losses	**$ 1,514**	$ 948	60%	**$ 4,158**	$ 3,323	25%

Quarterly results

The **provision for credit losses** increased driven by consumer and wholesale.

The **total consumer** provision reflects:

- an increase in credit card due to
  - higher net charge-offs on loan growth, in line with expectations, and
  - a $200 million addition to the allowance for loan losses reflecting higher loss rates, as newer vintages season and become a larger part of the portfolio, compared to a $150 million addition in the prior year
- an increase in consumer, excluding credit card in CCB due to
  - a $100 million reduction in the allowance for loan losses in the non credit-impaired residential real estate portfolio, compared to a $250 million reduction in the PCI residential real estate portfolio in the prior year, and
  - lower net recoveries in the residential real estate portfolio as the prior year benefited from a larger recovery on a loan sale

  partially offset by
  - a $50 million reduction in the allowance for loan losses in the business banking portfolio.

The **wholesale** provision was largely driven by select Commercial & Industrial ("C&I") client downgrades. The prior year was a net benefit which included net recoveries predominantly related to a loan sale in CIB.

Refer to CCB segment results on pages 22–27, CIB on pages 28–33, CB on pages 34–37, AWM on pages 38–41, the Allowance for Credit Losses on pages 67–68, and Note 12 for additional information on the credit portfolio and the allowance for credit losses.

Year-to-date results

The **provision for credit losses** increased driven by wholesale and consumer.

The **wholesale** provision was largely driven by select C&I client downgrades. The prior year was a net benefit primarily driven by loan sales and other activity related to a single name in the Oil & Gas portfolio, partially offset by other net portfolio activity.

The **total consumer** provision reflects:

- an increase in credit card due to
  - a $400 million addition to the allowance for loan losses reflecting higher loss rates, as newer vintages season and become a larger part of the portfolio and loan growth, compared to a $150 million addition in the prior year, and
  - higher net charge-offs on loan growth, in line with expectations

partially offset by

- a decrease in consumer, excluding credit card in CCB due to
  - a $400 million reduction in the allowance for loan losses in the PCI residential real estate portfolio, reflecting continued improvement in home prices and delinquencies, and a $100 million reduction in the allowance for loan losses in the non credit-impaired residential real estate portfolio, compared to a $250 million reduction in the PCI residential real estate portfolio in the prior year, and
  - a $50 million reduction in the allowance for loan losses in the business banking portfolio

  largely offset by
  - lower net recoveries in the residential real estate portfolio as the prior year benefited from larger recoveries on loan sales.

Noninterest expense

(in millions)	Three months ended September 30, 2019	2018	Change	Nine months ended September 30, 2019	2018	Change
Compensation expense	$ **8,583**	$ 8,108	6%	$ **26,067**	$ 25,308	3%
Noncompensation expense:						
Occupancy	**1,110**	1,014	9	**3,238**	2,883	12
Technology, communications and equipment	**2,494**	2,219	12	**7,236**	6,441	12
Professional and outside services	**2,056**	2,086	(1)	**6,307**	6,333	–
Marketing	**945**	798	18	**2,686**	2,396	12
Other expense[(a)(b)]	**1,234**	1,398	(12)	**3,624**	4,313	(16)
Total noncompensation expense	**7,839**	7,515	4	**23,091**	22,366	3
Total noninterest expense	$ **16,422**	$ 15,623	5%	$ **49,158**	$ 47,674	3%

(a) Included Firmwide legal expense/(benefit) of $10 million and $20 million for the three months ended September 30, 2019 and 2018, respectively and $(2) million and $90 million for the nine months ended September 30, 2019 and 2018, respectively.
(b) Included FDIC-related expense of $114 million and $349 million for the three months ended September 30, 2019 and 2018, respectively and $378 million and $1.1 billion for the nine months ended September 30, 2019 and 2018, respectively.

Quarterly results

Compensation expense increased driven by higher revenue-related expense in CIB and investments across the businesses, including front office hires, as well as technology staff.

Noncompensation expense increased as a result of:

- higher investments across the businesses, including technology, real estate and marketing, and
- higher volume-related expense, including depreciation from growth in auto operating lease assets in CCB, and brokerage expense in certain businesses in CIB,

partially offset by

- lower FDIC charges as a result of the elimination of the surcharge at the end of the third quarter of 2018, and
- lower other regulatory-related charges in CIB.

Year-to-date results

Compensation expense increased driven by investments across the businesses, including front office hires, as well as technology staff, partially offset by lower revenue-related expense in CIB.

Noncompensation expense increased as a result of:

- higher investments across the businesses, including, technology, real estate and marketing
- higher volume-related expense, including depreciation from growth in auto operating lease assets in CCB, and brokerage expense in certain businesses in CIB
- contributions to the Firm's Foundation, whereas all prior-year contributions were made in the fourth quarter, and
- higher pension costs due to changes to actuarial assumptions and estimates,

partially offset by

- lower FDIC charges as a result of the elimination of the surcharge at the end of the third quarter of 2018
- lower other regulatory-related charges in CIB
- lower legal expense, and
- lower distribution fees in AWM.

The prior year included a loss of $174 million on the liquidation of a legal entity in Corporate recorded in other expense.

Refer to Note 19 for additional information on the liquidation of a legal entity.

Income tax expense

(in millions)	Three months ended September 30, 2019	2018	Change	Nine months ended September 30, 2019	2018	Change
Income before income tax expense	**$ 11,405**	$10,689	7%	**$ 33,980**	$ 31,923	6%
Income tax expense	**2,325**	2,309	1	**6,069**	6,515	(7)
Effective tax rate	**20.4%**	21.6%		**17.9%**	20.4%	

Quarterly results

The **effective tax rate** decreased due to the recognition of tax benefits related to the resolution of certain tax audits and changes in the mix of income and expense subject to U.S. federal, and state and local taxes. In addition, the prior year included a $132 million net tax benefit resulting from changes in the estimates under the Tax Cuts and Jobs Act ("TCJA") related to the remeasurement of certain deferred taxes and the deemed repatriation tax on non-U.S. earnings.

Year-to-date results

The **effective tax rate** decreased due to the recognition of $1.0 billion of tax benefits related to the resolution of certain tax audits and changes in the mix of income and expense subject to U.S. federal, and state and local taxes. The decrease was partially offset by lower tax benefits related to the vesting of employee stock-based awards. In addition, the prior year included a $305 million net tax benefit resulting from changes in the estimates under the TCJA related to the remeasurement of certain deferred taxes and the deemed repatriation tax on non-U.S. earnings. Refer to Note 1 for additional information on the 2019 tax benefits.

Consolidated balance sheets analysis

The following is a discussion of the significant changes between September 30, 2019, and December 31, 2018.

Selected Consolidated balance sheets data

(in millions)	September 30, 2019	December 31, 2018	Change
Assets			
Cash and due from banks	$ **21,215**	$ 22,324	(5)%
Deposits with banks	**235,382**	256,469	(8)
Federal funds sold and securities purchased under resale agreements	**257,391**	321,588	(20)
Securities borrowed	**138,336**	111,995	24
Trading assets	**495,875**	413,714	20
Investment securities	**394,251**	261,828	51
Loans	**945,218**	984,554	(4)
Allowance for loan losses	**(13,235)**	(13,445)	(2)
Loans, net of allowance for loan losses	**931,983**	971,109	(4)
Accrued interest and accounts receivable	**88,988**	73,200	22
Premises and equipment	**25,117**	14,934	68
Goodwill, MSRs and other intangible assets	**53,078**	54,349	(2)
Other assets	**123,045**	121,022	2
Total assets	$ **2,764,661**	$ 2,622,532	5%

Cash and due from banks and deposits with banks decreased primarily as a result of a shift in the deployment of cash in Treasury and CIO to investment securities. Deposits with banks reflect the Firm's placements of its excess cash with various central banks, including the Federal Reserve Banks.

Federal funds sold and securities purchased under resale agreements decreased largely as a result of a shift in the deployment of cash in Treasury and CIO. Refer to Liquidity Risk Management on pages 50–54 and Note 10 for additional information.

Securities borrowed increased in CIB driven by higher demand for securities related to client-driven market-making activities in Fixed Income Markets, and to cover customer short positions in prime brokerage. Refer to Liquidity Risk Management on pages 50–54 and Note 10 for additional information.

Trading assets increased due to:

- growth in client-driven market-making activities in CIB, primarily debt instruments in Fixed Income Markets, and equity instruments in Equity Markets, including prime brokerage, and when compared with lower levels at year-end, and
- in CCB, an increase in U.S. GSE MBS acquired as part of the proceeds of warehouse loan sales, and growth related to originations of mortgage warehouse loans, resulting from the favorable rate environment,

partially offset by

- a reduction in short-term instruments associated with cash deployment activities in Treasury and CIO.

Refer to Notes 2 and 4 for additional information.

Investment securities increased primarily reflecting net purchases of U.S. Treasuries and U.S. GSE and government agency MBS in Treasury and CIO driven by interest rate risk management and broader balance sheet management. Refer to Corporate segment results on pages 42–43, Investment Portfolio Risk Management on page 69, and Notes 2 and 9 for additional information on Investment securities.

Loans decreased reflecting loan sales in Home Lending, and lower loans in CIB, primarily driven by a loan syndication and net pay downs, partially offset by increases in CB and AWM.

The **allowance for loan losses** decreased driven by:

- a $550 million reduction in the CCB allowance for loan losses, which includes $400 million in the PCI residential real estate portfolio, reflecting continued improvement in home prices and delinquencies; $100 million in the non credit-impaired residential real estate portfolio; and $50 million in the business banking portfolio; as well as
- a $132 million reduction for write-offs of PCI loans,

largely offset by

- a $400 million addition to the allowance for loan losses in the credit card portfolio reflecting higher loss rates, as newer vintages season and become a larger part of the portfolio and loan growth.

Refer to Credit and Investment Risk Management on pages 55–69, and Notes 2, 3, 11 and 12 for a more detailed discussion of loans and the allowance for loan losses.

Accrued interest and accounts receivable increased reflecting higher client receivables related to client-driven activities in CIB.

Premises and equipment increased due to the adoption of the new lease accounting guidance effective January 1, 2019. Refer to Note 16 for additional information.

Goodwill, MSRs and other intangibles decreased reflecting lower MSRs as a result of faster prepayment speeds on lower rates, partially offset by an increase in goodwill associated with the acquisition of InstaMed. Refer to Note 14 for additional information.

Selected Consolidated balance sheets data (continued)

(in millions)	September 30, 2019	December 31, 2018	Change
Liabilities			
Deposits	$ 1,525,261	$ 1,470,666	4%
Federal funds purchased and securities loaned or sold under repurchase agreements	247,766	182,320	36
Short-term borrowings	48,893	69,276	(29)
Trading liabilities	138,343	144,773	(4)
Accounts payable and other liabilities	225,063	196,710	14
Beneficial interests issued by consolidated variable interest entities (“VIEs”)	18,515	20,241	(9)
Long-term debt	296,472	282,031	5
Total liabilities	2,500,313	2,366,017	6
Stockholders’ equity	264,348	256,515	3
Total liabilities and stockholders’ equity	$ 2,764,661	$ 2,622,532	5%

Deposits increased reflecting:

- growth in operating deposits in CIB driven by client activity in Treasury Services and Securities Services, and an increase in net issuances of structured notes in Markets, and
- in CCB, predominantly due to continued growth in new accounts, and in CB, growth from existing clients.

Refer to Liquidity Risk Management on pages 50–54 and Notes 2 and 15 for additional information.

Federal funds purchased and securities loaned or sold under repurchase agreements increased driven by CIB and includes the Firm’s participation in the Federal Reserve’s open market operations, as well as higher secured financing of trading assets-debt instruments and client-driven activities. Refer to Liquidity Risk Management on pages 50-54 and Note 10 for additional information.

Short-term borrowings decreased reflecting lower commercial paper and short-term advances from Federal Home Loan Banks (“FHLB”) in Treasury and CIO, primarily driven by liquidity management. Refer to Liquidity Risk Management on pages 50–54 for additional information.

Trading liabilities decreased as a result of client-driven market-making activities in CIB, which resulted in lower levels of short positions primarily in equity instruments in Equity Markets. Refer to Notes 2 and 4 for additional information.

Accounts payable and other liabilities increased reflecting:

- higher client payables related to client-driven activities in CIB, and
- the impact of the adoption of the new lease accounting guidance effective January 1, 2019.

Refer to Note 16 for additional information on Leases.

Beneficial interests issued by consolidated VIEs decreased due to:

- maturities of credit card securitizations,

predominantly offset by

- higher levels of Firm-administered multi-seller conduit commercial paper issued to third parties.

Refer to Off-Balance Sheet Arrangements on page 18 and Notes 13 and 22 for further information on Firm-sponsored VIEs and loan securitization trusts.

Long-term debt increased as a result of client-driven net issuances of structured notes in CIB’s Markets business.

Refer to Liquidity Risk Management on pages 50–54 for additional information on the Firm’s long-term debt activities.

Refer to page 83 for information on changes in stockholders’ equity and Capital actions on pages 47–48.

Consolidated cash flows analysis

The following is a discussion of cash flow activities during the nine months ended September 30, 2019 and 2018.

(in millions)	Nine months ended September 30, 2019	2018
Net cash provided by/(used in)		
Operating activities	**$ (77,039)**	$ 13,765
Investing activities	**(38,181)**	(39,782)
Financing activities	**96,006**	16,319
Effect of exchange rate changes on cash	**(2,982)**	(2,509)
Net decrease in cash and due from banks and deposits with banks	**$ (22,196)**	$ (12,207)

Operating activities

- In 2019, cash used primarily resulted from higher trading assets, securities borrowed, other assets and accrued interest and accounts receivable, partially offset by higher accounts payable and other liabilities, trading liabilities, and net proceeds from loans originated for sale.
- In 2018, cash provided primarily resulted from net income, higher accounts payable and other liabilities, and trading liabilities, partially offset by higher trading assets and securities borrowed.

Investing activities

- In 2019, cash used primarily resulted from net purchases of investment securities and net loan originations, predominantly offset by lower securities purchased under resale agreements, and proceeds from the sale of loans held-for-investment.
- In 2018, cash used resulted from higher net loan originations and an increase in securities purchased under resale agreements, partially offset by net proceeds from investment securities and sales of loans held-for-investment.

Financing activities

- In 2019, cash provided resulted from higher deposits, and securities loaned or sold under repurchase agreements, partially offset by lower short-term and long-term borrowings.
- In 2018, cash provided resulted from higher securities loaned or sold under repurchase agreements, deposits and short-term borrowings, partially offset by a decrease in long-term borrowings.
- For both periods, cash was used for repurchases of common stock and cash dividends on common and preferred stock.

* * *

Refer to Consolidated Balance Sheets Analysis on pages 15-16, Capital Risk Management on pages 45–49, and Liquidity Risk Management on pages 50–54 of this Form 10-Q, and pages 95-100 of JPMorgan Chase's 2018 Form 10-K for a further discussion of the activities affecting the Firm's cash flows.

OFF-BALANCE SHEET ARRANGEMENTS

In the normal course of business, the Firm enters into various off-balance sheet arrangements and contractual obligations that may require future cash payments. Certain obligations are recognized on-balance sheet, while others are disclosed off-balance sheet under accounting principles generally accepted in the U.S. ("U.S. GAAP").

Special-purpose entities

The Firm has several types of off–balance sheet arrangements, including through nonconsolidated special-purpose entities ("SPEs"), which are a type of VIE, and through lending-related financial instruments (e.g., commitments and guarantees).

The Firm holds capital, as appropriate, against all SPE-related transactions and related exposures, such as derivative contracts and lending-related commitments and guarantees.

The Firm has no commitments to issue its own stock to support any SPE transaction, and its policies require that transactions with SPEs be conducted at arm's length and reflect market pricing. Consistent with this policy, no JPMorgan Chase employee is permitted to invest in SPEs with which the Firm is involved where such investment would violate the Firm's Code of Conduct.

The table below provides an index of where in this Form 10-Q a discussion of the Firm's various off-balance sheet arrangements can be found. In addition, refer to Note 1 for information about the Firm's consolidation policies.

Type of off-balance sheet arrangement	Location of disclosure	Page references
Special-purpose entities: variable interests and other obligations, including contingent obligations, arising from variable interests in nonconsolidated VIEs	Refer to Note 13	139-144
Off-balance sheet lending-related financial instruments, guarantees, and other commitments	Refer to Note 22	156-159

EXPLANATION AND RECONCILIATION OF THE FIRM'S USE OF NON-GAAP FINANCIAL MEASURES AND KEY PERFORMANCE MEASURES

The Firm prepares its Consolidated Financial Statements in accordance with U.S. GAAP and this presentation is referred to as "reported" basis; these financial statements appear on pages 80–84.

In addition to analyzing the Firm's results on a reported basis, the Firm also reviews and uses certain non-GAAP financial measures at the Firmwide and segment level. These non-GAAP measures include:

- Firmwide "managed" basis results, including the overhead ratio, which include certain reclassifications to present total net revenue from investments that receive tax credits and tax-exempt securities on a basis comparable to taxable investments and securities ("FTE" basis)
- Net interest income and net yield excluding CIB's Markets businesses
- Certain credit metrics and ratios, which exclude PCI loans
- Tangible common equity ("TCE"), ROTCE, and TBVPS.

In addition, core loans is a key performance measure utilized by the Firm and its investors and analysts in assessing actual growth in the loan portfolio.

Refer to Explanation and Reconciliation of the Firm's Use Of Non-GAAP Financial Measures and Key Performance Measures on pages 57-59 of JPMorgan Chase's 2018 Form 10-K for a further discussion of management's use of non-GAAP financial measures and key performance measures.

The following summary table provides a reconciliation from the Firm's reported U.S. GAAP results to managed basis.

	Three months ended September 30,					
	2019			2018		
(in millions, except ratios)	Reported results	Fully taxable-equivalent adjustments[(a)]	Managed basis	Reported results	Fully taxable-equivalent adjustments[(a)]	Managed basis
Other income	**$ 1,472**	**$ 596**	**$ 2,068**	$ 1,160	$ 408	$ 1,568
Total noninterest revenue	**15,113**	**596**	**15,709**	13,352	408	13,760
Net interest income	**14,228**	**127**	**14,355**	13,908	154	14,062
Total net revenue	**29,341**	**723**	**30,064**	27,260	562	27,822
Pre-provision profit	**12,919**	**723**	**13,642**	11,637	562	12,199
Income before income tax expense	**11,405**	**723**	**12,128**	10,689	562	11,251
Income tax expense	**$ 2,325**	**$ 723**	**$ 3,048**	$ 2,309	$ 562	$ 2,871
Overhead ratio	**56%**	**NM**	**55%**	57%	NM	56%

	Nine months ended September 30,					
	2019			2018		
(in millions, except ratios)	Reported results	Fully taxable-equivalent adjustments[(a)]	Managed basis	Reported results	Fully taxable-equivalent adjustments[(a)]	Managed basis
Other income	**$ 4,239**	**$ 1,777**	**$ 6,016**	$ 4,041	$ 1,337	$ 5,378
Total noninterest revenue	**44,217**	**1,777**	**45,994**	42,215	1,337	43,552
Net interest income	**43,079**	**408**	**43,487**	40,705	473	41,178
Total net revenue	**87,296**	**2,185**	**89,481**	82,920	1,810	84,730
Pre-provision profit	**38,138**	**2,185**	**40,323**	35,246	1,810	37,056
Income before income tax expense	**33,980**	**2,185**	**36,165**	31,923	1,810	33,733
Income tax expense	**$ 6,069**	**$ 2,185**	**$ 8,254**	$ 6,515	$ 1,810	$ 8,325
Overhead ratio	**56%**	**NM**	**55%**	57%	NM	56%

(a) Predominantly recognized in CIB, CB and Corporate.

The following table provides information on net interest income and net yield excluding CIB's Markets businesses.

(in millions, except rates)	Three months ended September 30, 2019	2018	Change	Nine months ended September 30, 2019	2018	Change
Net interest income – reported	**$ 14,228**	$ 13,908	2%	**$ 43,079**	$ 40,705	6%
Fully taxable-equivalent adjustments	**127**	154	(18)	**408**	473	(14)
Net interest income – managed basis[(a)]	**$ 14,355**	$ 14,062	2	**$ 43,487**	$ 41,178	6
Less: CIB Markets net interest income[(b)]	**723**	704	3	**1,971**	2,488	(21)
Net interest income excluding CIB Markets[(a)]	**$ 13,632**	$ 13,358	2	**$ 41,516**	$ 38,690	7
Average interest-earning assets[(c)]	**$ 2,365,154**	$ 2,203,305	7	**$ 2,334,623**	$ 2,198,909	6
Less: Average CIB Markets interest-earning assets[(b)(c)]	**690,593**	596,784	16	**671,236**	589,185	14
Average interest-earning assets excluding CIB Markets	**$ 1,674,561**	$ 1,606,521	4%	**$ 1,663,387**	$ 1,609,724	3%
Net interest yield on average interest-earning assets – managed basis[(c)]	**2.41%**	2.53%		**2.49%**	2.50%	
Net interest yield on average CIB Markets interest-earning assets[(b)(c)]	**0.42**	0.47		**0.39**	0.56	
Net interest yield on average interest-earning assets excluding CIB Markets	**3.23%**	3.30%		**3.34%**	3.21%	

(a) Interest includes the effect of related hedges. Taxable-equivalent amounts are used where applicable.
(b) Refer to page 32 for further information on CIB's Markets businesses.
(c) In the second quarter of 2019, the Firm reclassified balances related to certain instruments from interest-earning to noninterest-earning assets, as the associated returns are recorded in principal transactions revenue and not in net interest income. These changes were applied retrospectively and, accordingly, prior period amounts were revised to conform with the current presentation.

The following summary table provides a reconciliation from the Firm's common stockholders' equity to TCE.

	Period-end		Average			
			Three months ended September 30,		Nine months ended September 30,	
(in millions, except per share and ratio data)	**Sep 30, 2019**	Dec 31, 2018	**2019**	2018	**2019**	2018
Common stockholders' equity	**$ 235,985**	$ 230,447	**$ 235,613**	$ 230,439	**$ 232,917**	$ 228,995
Less: Goodwill	**47,818**	47,471	**47,707**	47,490	**47,552**	47,496
Less: Other intangible assets	**841**	748	**842**	795	**776**	820
Add: Certain Deferred tax liabilities[(a)]	**2,371**	2,280	**2,344**	2,233	**2,311**	2,221
Tangible common equity	**$ 189,697**	$ 184,508	**$ 189,408**	$ 184,387	**$ 186,900**	$ 182,900
Return on tangible common equity	**NA**	NA	**18%**	17%	**19%**	18%
Tangible book value per share	**$ 60.48**	$ 56.33	**NA**	NA	**NA**	NA

(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 TCE.

The Firm is managed on a line of business basis. There are four major reportable business segments – Consumer & Community Banking, Corporate & Investment Bank, Commercial Banking and Asset & Wealth Management. In addition, there is a Corporate segment.

The business segments are determined based on the products and services provided, or the type of customer served, and they reflect the manner in which financial information is currently evaluated by the Firm's Operating Committee. Segment results are presented on a managed basis. Refer to Explanation and Reconciliation of the Firm's use of Non-GAAP Financial Measures and Key Performance Measures on pages 19–20 for a definition of managed basis.

Description of business segment reporting methodology

Results of the business segments are intended to present each segment as if it were essentially a stand-alone business. The management reporting process that derives business segment results includes the allocation of certain income and expense items. Refer to Line of business equity on page 47 for further information about line of business capital. The Firm periodically assesses the assumptions, methodologies and reporting classifications used for segment reporting, and further refinements may be implemented in future periods.

Business segment capital allocation

The amount of capital assigned to each business is referred to as equity. On at least an annual basis, the assumptions and methodologies used in capital allocation are assessed and as a result, the capital allocated to lines of business may change. Refer to Line of business equity on page 91 of JPMorgan Chase's 2018 Form 10-K for additional information on business segment capital allocation.

Refer to Business Segment Results – Description of business segment reporting methodology on pages 60–61 of JPMorgan Chase's 2018 Form 10-K for a further discussion of those methodologies.

Segment results – managed basis

The following tables summarize the Firm's results by segment for the periods indicated.

Three months ended September 30,	Consumer & Community Banking			Corporate & Investment Bank			Commercial Banking		
(in millions, except ratios)	**2019**	2018	Change	**2019**	2018	Change	**2019**	2018	Change
Total net revenue	**$ 14,259**	$ 13,290	7%	**$ 9,338**	$ 8,805	6%	**$ 2,207**	$ 2,271	(3)%
Total noninterest expense	**7,290**	6,982	4	**5,348**	5,175	3	**881**	853	3
Pre-provision profit/(loss)	**6,969**	6,308	10	**3,990**	3,630	10	**1,326**	1,418	(6)
Provision for credit losses	**1,311**	980	34	**92**	(42)	NM	**67**	(15)	NM
Net income/(loss)	**4,273**	4,086	5	**2,809**	2,626	7	**937**	1,089	(14)
Return on equity ("ROE")	**32%**	31%		**13%**	14%		**16%**	21%	

Three months ended September 30,	Asset & Wealth Management			Corporate			Total		
(in millions, except ratios)	**2019**	2018	Change	**2019**	2018	Change	**2019**	2018	Change
Total net revenue	**$ 3,568**	$ 3,559	–%	**$ 692**	$ (103)	NM	**$ 30,064**	**$ 27,822**	8%
Total noninterest expense	**2,622**	2,585	1	**281**	28	NM	**16,422**	**15,623**	5
Pre-provision profit/(loss)	**946**	974	(3)	**411**	(131)	NM	**13,642**	**12,199**	12
Provision for credit losses	**44**	23	91	**–**	2	NM	**1,514**	**948**	60
Net income/(loss)	**668**	724	(8)	**393**	(145)	NM	**9,080**	**8,380**	8
ROE	**24%**	31%		**NM**	NM		**15%**	14%	

Nine months ended September 30,	Consumer & Community Banking			Corporate & Investment Bank			Commercial Banking		
(in millions, except ratios)	**2019**	2018	Change	**2019**	2018	Change	**2019**	2018	Change
Total net revenue	**$ 41,843**	$ 38,384	9%	**$ 28,827**	$ 29,211	(1)%	**$ 6,756**	$ 6,753	–%
Total noninterest expense	**21,663**	20,770	4	**16,288**	16,237	–	**2,618**	2,541	3
Pre-provision profit/(loss)	**20,180**	17,614	15	**12,539**	12,974	(3)	**4,138**	4,212	(2)
Provision for credit losses	**3,745**	3,405	10	**179**	(142)	NM	**186**	23	NM
Net income/(loss)	**12,410**	10,824	15	**8,995**	9,798	(8)	**2,986**	3,201	(7)
ROE	**31%**	27%		**14%**	18%		**17%**	20%	

Nine months ended September 30,	Asset & Wealth Management			Corporate			Total		
(in millions, except ratios)	**2019**	2018	Change	**2019**	2018	Change	**2019**	2018	Change
Total net revenue	**$ 10,616**	$ 10,637	–%	**$ 1,439**	$ (255)	NM	**$ 89,481**	**$ 84,730**	6%
Total noninterest expense	**7,865**	7,732	2	**724**	394	84	**49,158**	**47,674**	3
Pre-provision profit/(loss)	**2,751**	2,905	(5)	**715**	(649)	NM	**40,323**	**37,056**	9
Provision for credit losses	**48**	40	20	**–**	(3)	NM	**4,158**	**3,323**	25
Net income/(loss)	**2,048**	2,249	(9)	**1,472**	(664)	NM	**27,911**	**25,408**	10
ROE	**25%**	32%		**NM**	NM		**15%**	14%	

The following sections provide a comparative discussion of the Firm's results by segment as of or for the three and nine months ended September 30, 2019 versus the corresponding periods in the prior year, unless otherwise specified.

Refer to pages 62–65 of JPMorgan Chase's 2018 Form 10-K and Line of Business Metrics on page 173 for a discussion of the business profile of CCB.

Selected income statement data

	Three months ended September 30,			Nine months ended September 30,		
(in millions, except ratios)	**2019**	2018	Change	**2019**	2018	Change
Revenue						
Lending- and deposit-related fees	**$ 1,026**	$ 936	10%	**$ 2,827**	$ 2,668	6%
Asset management, administration and commissions	**608**	626	(3)	**1,890**	1,792	5
Mortgage fees and related income	**886**	260	241	**1,561**	1,049	49
Card income	**1,176**	1,219	(4)	**3,601**	3,299	9
All other income	**1,399**	1,135	23	**3,989**	3,255	23
Noninterest revenue	**5,095**	4,176	22	**13,868**	12,063	15
Net interest income	**9,164**	9,114	1	**27,975**	26,321	6
Total net revenue	**14,259**	13,290	7	**41,843**	38,384	9
Provision for credit losses	**1,311**	980	34	**3,745**	3,405	10
Noninterest expense						
Compensation expense	**2,683**	2,635	2	**8,063**	7,916	2
Noncompensation expense[(a)]	**4,607**	4,347	6	**13,600**	12,854	6
Total noninterest expense	**7,290**	6,982	4	**21,663**	20,770	4
Income before income tax expense	**5,658**	5,328	6	**16,435**	14,209	16
Income tax expense	**1,385**	1,242	12	**4,025**	3,385	19
Net income	**$ 4,273**	$ 4,086	5	**$ 12,410**	$ 10,824	15
Revenue by line of business						
Consumer & Business Banking	**$ 6,688**	$ 6,385	5	**$ 20,053**	$ 18,238	10
Home Lending	**1,465**	1,306	12	**3,929**	4,162	(6)
Card, Merchant Services & Auto	**6,106**	5,599	9	**17,861**	15,984	12
Mortgage fees and related income details:						
Net production revenue	**738**	108	NM	**1,291**	296	336
Net mortgage servicing revenue[(b)]	**148**	152	(3)	**270**	753	(64)
Mortgage fees and related income	**$ 886**	$ 260	241%	**$ 1,561**	$ 1,049	49%
Financial ratios						
Return on equity	**32%**	31%		**31%**	27%	
Overhead ratio	**51**	53		**52**	54	

Note: In the discussion and the tables which follow, CCB presents certain financial measures which exclude the impact of PCI loans; these are non-GAAP financial measures.

(a) Included operating lease depreciation expense of $1.0 billion and $862 million for the three months ended September 30, 2019 and 2018, respectively, and $3.0 billion and $2.5 billion for nine months ended September 30, 2019 and 2018, respectively.

(b) Included MSR risk management results of $53 million and $(88) million for the three months ended September 30, 2019 and 2018, respectively and $(200) million and $(94) million for nine months ended September 30, 2019 and 2018, respectively.

Quarterly results

Net income was $4.3 billion, an increase of 5%.

Net revenue was $14.3 billion, an increase of 7%. Net production revenue included approximately $350 million of gains on the sale of certain mortgage loans that were predominantly offset by a charge in net interest income for the unwind of the related internal funding from Treasury and Chief Investment Office ("CIO") associated with these loans. The charge reflects the net present value of that funding and is recognized as interest income in Treasury and CIO. Refer to Corporate on pages 42–43 of this Form 10-Q and Funds Transfer Pricing ("FTP") on page 60 of the Firm's 2018 Form 10-K for further information.

Net interest income was $9.2 billion, up 1% and includes the charge from the loan sales mentioned above. Excluding this charge, net interest income increased, driven by:

- higher loan balances and margin expansion in Card, as well as growth in deposit balances and higher deposit margins in CBB,

partially offset by

- lower loan balances due to loan sales, as well as loan spread compression in Home Lending.

Noninterest revenue was $5.1 billion, up 22% and includes the gain from the loan sales mentioned above. Excluding this gain, noninterest revenue increased, driven by:

- higher net mortgage production revenue reflecting higher production volumes and margins, and
- higher auto lease volume
- net mortgage servicing revenue, which remained relatively flat, reflecting lower operating revenue driven by the impact of reclassifying certain loans to held-for-sale and faster prepayment speeds on lower rates, offset by favorable MSR risk management results.

Refer to Note 14 for further information regarding changes in value of the MSR asset and related hedges, and mortgage fees and related income.

Noninterest expense was $7.3 billion, up 4%, predominantly driven by:

- technology, marketing and other investments in the business, as well as higher auto lease depreciation,

partially offset by

- expense efficiencies and lower FDIC charges.

The provision for credit losses was $1.3 billion, an increase of 34%, reflecting:

- an increase in credit card due to
  - higher net charge-offs on loan growth, in line with expectations, and
  - a $200 million addition to the allowance for loan losses reflecting higher loss rates, as newer vintages season and become a larger part of the portfolio, compared to a $150 million addition in the prior year
- an increase in consumer, excluding credit card due to
  - a $100 million reduction in the allowance for loan losses in the non credit-impaired residential real estate portfolio, compared to a $250 million reduction in the PCI residential real estate portfolio in the prior year, and
  - lower net recoveries in the residential real estate portfolio as the prior year benefited from a larger recovery on a loan sale

  partially offset by

  - a $50 million reduction in the allowance for loan losses in the business banking portfolio.

Year-to-date results

Net income was $12.4 billion, an increase of 15%.

Net revenue was $41.8 billion, an increase of 9%. Net production revenue included gains on sales of certain mortgage loans that were predominantly offset by charges in net interest income for the unwind of the related internal funding from Treasury and CIO associated with these loans.

Net interest income was $28.0 billion, up 6%, and includes charges from the loan sales mentioned above. Excluding these charges, net interest income increased, driven by:

- higher deposit margins and growth in deposit balances in CBB, as well as higher loan balances and margin expansion in Card,

partially offset by

- lower loan balances due to loan sales, as well as loan spread compression in Home Lending.

Noninterest revenue was $13.9 billion, up 15%, and includes gains from the loan sales mentioned above. Excluding these gains, noninterest revenue increased, driven by:

- higher auto lease volume,
- higher net mortgage production revenue reflecting higher production margins and volumes, and
- the impact of the prior-year adjustment of approximately $330 million to the credit card rewards liability,

partially offset by

- lower net mortgage servicing revenue driven by
  - lower operating revenue reflecting faster prepayment speeds on lower rates and the impact of reclassifying certain loans to held-for-sale, as well as
  - lower MSR risk management results reflecting updates to model inputs.

Noninterest expense was $21.7 billion, up 4%, driven by:

- technology, marketing and other investments in the business, as well as higher auto lease depreciation,

partially offset by

- expense efficiencies and lower FDIC charges.

The provision for credit losses was $3.7 billion, an increase of 10%, reflecting:

- an increase in credit card due to
  - a $400 million addition to the allowance for loan losses reflecting higher loss rates, as newer vintages season and become a larger part of the portfolio and loan growth, compared to a $150 million addition in the prior year, and
  - higher net charge-offs on loan growth, in line with expectations

partially offset by

- a decrease in consumer, excluding credit card due to
  - a $400 million reduction in the allowance for loan losses in the PCI residential real estate portfolio, reflecting continued improvement in home prices and delinquencies, and a $100 million reduction in the allowance for loan losses in the non credit-impaired residential real estate portfolio, compared to a $250 million reduction in the PCI residential real estate portfolio in the prior year, and
  - a $50 million reduction in the allowance for loan losses in the business banking portfolio

  largely offset by

  - lower net recoveries in the residential real estate portfolio as the prior year benefited from larger recoveries on loan sales.

Selected metrics

(in millions, except headcount)	As of or for the three months ended September 30, 2019	2018	Change	As of or for the nine months ended September 30, 2019	2018	Change
Selected balance sheet data (period-end)						
Total assets	**$ 532,487**	$ 560,432	(5)%	**$ 532,487**	$ 560,432	(5)%
Loans:						
Consumer & Business Banking	**26,699**	26,451	1	**26,699**	26,451	1
Home equity	**31,552**	37,461	(16)	**31,552**	37,461	(16)
Residential mortgage	**171,787**	205,389	(16)	**171,787**	205,389	(16)
Home Lending	**203,339**	242,850	(16)	**203,339**	242,850	(16)
Card	**159,571**	147,881	8	**159,571**	147,881	8
Auto	**61,410**	63,619	(3)	**61,410**	63,619	(3)
Total loans	**451,019**	480,801	(6)	**451,019**	480,801	(6)
Core loans	**405,662**	425,917	(5)	**405,662**	425,917	(5)
Deposits	**701,170**	677,260	4	**701,170**	677,260	4
Equity	**52,000**	51,000	2	**52,000**	51,000	2
Selected balance sheet data (average)						
Total assets	**$ 538,500**	$ 551,080	(2)	**$ 544,833**	$ 544,931	–
Loans:						
Consumer & Business Banking	**26,550**	26,351	1	**26,537**	26,104	2
Home equity	**32,215**	38,211	(16)	**33,694**	39,951	(16)
Residential mortgage	**181,157**	204,689	(11)	**191,881**	201,665	(5)
Home Lending	**213,372**	242,900	(12)	**225,575**	241,616	(7)
Card	**158,168**	146,272	8	**154,375**	143,986	7
Auto	**61,371**	64,060	(4)	**62,118**	65,096	(5)
Total loans	**459,461**	479,583	(4)	**468,605**	476,802	(2)
Core loans	**413,036**	422,582	(2)	**419,851**	415,662	1
Deposits	**693,980**	674,211	3	**688,676**	669,244	3
Equity	**52,000**	51,000	2	**52,000**	51,000	2
Headcount	**127,687**	129,891	(2)%	**127,687**	129,891	(2)%

Selected metrics

(in millions, except ratio data)	As of or for the three months ended September 30, 2019	2018	Change	As of or for the nine months ended September 30, 2019	2018	Change
Credit data and quality statistics						
Nonaccrual loans[a][b]	**$ 3,099**	$ 3,520	(12)%	**$ 3,099**	$ 3,520	(12)%
Net charge-offs/(recoveries)[c]						
Consumer & Business Banking	**79**	68	16	**204**	171	19
Home equity	**(25)**	(12)	(108)	**(41)**	(3)	NM
Residential mortgage	**(17)**	(105)	84	**(34)**	(252)	87
Home Lending	**(42)**	(117)	64	**(75)**	(255)	71
Card	**1,175**	1,073	10	**3,617**	3,407	6
Auto	**49**	56	(13)	**149**	182	(18)
Total net charge-offs/(recoveries)	**$ 1,261**	$ 1,080	17	**$ 3,895**	$ 3,505	11
Net charge-off/(recovery) rate[c]						
Consumer & Business Banking	**1.18%**	1.02%		**1.03%**	0.88%	
Home equity[d]	**(0.41)**	(0.17)		**(0.22)**	(0.01)	
Residential mortgage[d]	**(0.04)**	(0.22)		**(0.03)**	(0.18)	
Home Lending[d]	**(0.09)**	(0.21)		**(0.05)**	(0.16)	
Card	**2.95**	2.91		**3.13**	3.16	
Auto	**0.32**	0.35		**0.32**	0.37	
Total net charge-off/(recovery) rate[d]	**1.16**	0.95		**1.17**	1.05	
30+ day delinquency rate						
Home Lending[e][f]	**0.78%**	0.81%		**0.78%**	0.81%	
Card	**1.84**	1.75		**1.84**	1.75	
Auto	**0.88**	0.82		**0.88**	0.82	
90+ day delinquency rate – Card	**0.90**	0.85		**0.90**	0.85	
Allowance for loan losses						
Consumer & Business Banking	**$ 746**	$ 796	(6)	**$ 746**	$ 796	(6)
Home Lending, excluding PCI loans	**903**	1,003	(10)	**903**	1,003	(10)
Home Lending – PCI loans[c]	**1,256**	1,824	(31)	**1,256**	1,824	(31)
Card	**5,583**	5,034	11	**5,583**	5,034	11
Auto	**465**	464	–	**465**	464	–
Total allowance for loan losses[c]	**$ 8,953**	$ 9,121	(2)%	**$ 8,953**	$ 9,121	(2)%

(a) Excludes PCI loans. The Firm is recognizing interest income on each pool of PCI loans as each of the pools is performing.
(b) At September 30, 2019 and 2018, nonaccrual loans excluded mortgage loans 90 or more days past due and insured by U.S. government agencies of $1.6 billion and $2.9 billion, respectively. These amounts have been excluded based upon the government guarantee.
(c) Net charge-offs/(recoveries) and the net charge-off/(recovery) rates for the three months ended September 30, 2019 and 2018, excluded $43 million and $58 million, respectively, and for nine months ended September 30, 2019 and 2018, excluded $132 million and $151 million, respectively, of write-offs in the PCI portfolio. These write-offs decreased the allowance for loan losses for PCI loans. Refer to Summary of changes in the allowance for credit losses on page 68 for further information on PCI write-offs.
(d) Excludes the impact of PCI loans. For the three months ended September 30, 2019 and 2018, the net charge-off/(recovery) rates including the impact of PCI loans were as follows: (1) home equity of (0.31)% and (0.12)%, respectively; (2) residential mortgage of (0.04)% and (0.20)%, respectively; (3) Home Lending of (0.08)% and (0.19)%, respectively; and (4) total CCB of 1.10% and 0.89%, respectively. For nine months ended September 30, 2019 and 2018, the net charge-off/(recovery) rates included impact of PCI loans were as follows: (1) home equity of (0.16)% and (0.01)%, respectively; (2) residential mortgage of (0.02)% and (0.17)%, respectively; (3) Home Lending of (0.04)% and (0.14)%, respectively; and (4) total CCB of 1.12% and 0.98%, respectively.
(e) At September 30, 2019 and 2018, excluded mortgage loans insured by U.S. government agencies of $2.7 billion and $4.5 billion, respectively, that are 30 or more days past due. These amounts have been excluded based upon the government guarantee.
(f) Excludes PCI loans. The 30+ day delinquency rate for PCI loans was 8.56% and 9.39% at September 30, 2019 and 2018, respectively.

Selected metrics

(in billions, except ratios and where otherwise noted)	As of or for the three months ended September 30, 2019	2018	Change	As of or for the nine months ended September 30, 2019	2018	Change
Business Metrics						
Number of branches	**4,949**	5,066	(2)%	**4,949**	5,066	(2)%
Active digital customers (in thousands)[a]	**51,843**	48,664	7	**51,843**	48,664	7
Active mobile customers (in thousands)[b]	**36,510**	32,538	12	**36,510**	32,538	12
Debit and credit card sales volume	**$ 282.2**	$ 259.0	9	**$ 818.8**	$ 746.4	10
Consumer & Business Banking						
Average deposits	**$ 678.3**	$ 659.5	3	**$ 674.5**	$ 655.3	3
Deposit margin	**2.47%**	2.43%		**2.56%**	2.33%	
Business banking origination volume	**$ 1.6**	$ 1.6	(5)	**$ 4.8**	$ 5.2	(8)
Client investment assets	**337.9**	298.4	13	**337.9**	298.4	13
Home Lending						
Mortgage origination volume by channel						
Retail	**$ 14.2**	$ 10.6	34	**$ 34.6**	$ 29.3	18
Correspondent	**18.2**	11.9	53	**37.3**	32.9	13
Total mortgage origination volume[c]	**$ 32.4**	$ 22.5	44	**$ 71.9**	$ 62.2	16
Total loans serviced (period-end)	**$ 774.8**	$ 798.6	(3)	**$ 774.8**	$ 798.6	(3)
Third-party mortgage loans serviced (period-end)	**535.8**	526.5	2	**535.8**	526.5	2
MSR carrying value (period-end)	**4.4**	6.4	(31)	**4.4**	6.4	(31)
Ratio of MSR carrying value (period-end) to third-party mortgage loans serviced (period-end)	**0.82%**	1.22%		**0.82%**	1.22%	
MSR revenue multiple[d]	**2.41x**	3.49x		**2.34x**	3.49x	
Card, excluding Commercial Card						
Credit card sales volume	**$ 193.6**	$ 176.0	10	**$ 558.6**	$ 507.1	10
Card Services						
Net revenue rate	**11.40%**	11.50%		**11.50%**	11.17%	
Merchant Services						
Merchant processing volume	**$ 380.5**	$ 343.8	11	**$ 1,108.6**	$ 990.9	12
Auto						
Loan and lease origination volume	**$ 9.1**	$ 8.1	12	**$ 25.5**	$ 24.8	3
Average auto operating lease assets	**21.8**	19.2	14%	**21.3**	18.4	16%

(a) Users of all web and/or mobile platforms who have logged in within the past 90 days.
(b) Users of all mobile platforms who have logged in within the past 90 days.
(c) Firmwide mortgage origination volume was $35.8 billion and $24.5 billion for the three months ended September 30, 2019 and 2018, respectively, and $78.5 billion and $68.2 billion for nine months ended September 30, 2019 and 2018, respectively.
(d) Represents the ratio of MSR carrying value (period-end) to third-party mortgage loans serviced (period-end) divided by the ratio of annualized loan servicing-related revenue to third-party mortgage loans serviced (average).

Refer to pages 66–70 of JPMorgan Chase's 2018 Form 10-K and Line of Business Metrics on page 173 for a discussion of the business profile of CIB.

Selected income statement data

	Three months ended September 30,			Nine months ended September 30,		
(in millions, except ratios)	**2019**	2018	Change	**2019**	2018	Change
Revenue						
Investment banking fees	**$ 1,981**	$ 1,823	9%	**$ 5,671**	$ 5,658	—%
Principal transactions	**3,418**	3,091	11	**11,466**	10,786	6
Lending- and deposit-related fees	**360**	373	(3)	**1,095**	1,136	(4)
Asset management, administration and commissions	**1,197**	1,130	6	**3,447**	3,416	1
All other income	**226**	88	157	**649**	958	(32)
Noninterest revenue	**7,182**	6,505	10	**22,328**	21,954	2
Net interest income	**2,156**	2,300	(6)	**6,499**	7,257	(10)
Total net revenue[(a)]	**9,338**	8,805	6	**28,827**	29,211	(1)
Provision for credit losses	**92**	(42)	NM	**179**	(142)	NM
Noninterest expense						
Compensation expense	**2,734**	2,402	14	**8,381**	8,158	3
Noncompensation expense	**2,614**	2,773	(6)	**7,907**	8,079	(2)
Total noninterest expense	**5,348**	5,175	3	**16,288**	16,237	—
Income before income tax expense	**3,898**	3,672	6	**12,360**	13,116	(6)
Income tax expense	**1,089**	1,046	4	**3,365**	3,318	1
Net income	**$ 2,809**	$ 2,626	7%	**$ 8,995**	$ 9,798	(8)%
Financial ratios						
Return on equity	**13%**	14%		**14%**	18%	
Overhead ratio	**57**	59		**57**	56	
Compensation expense as percentage of total net revenue	**29**	27		**29**	28	

(a) Includes tax-equivalent adjustments, predominantly due to income tax credits related to alternative energy investments; income tax credits and amortization of the cost of investments in affordable housing projects; and tax-exempt income from municipal bonds of $527 million and $354 million for the three months ended September 30, 2019 and 2018, respectively, and $1.6 billion and $1.2 billion for the nine months ended September 30, 2019 and 2018, respectively.

Selected income statement data

	Three months ended September 30,			Nine months ended September 30,		
(in millions)	**2019**	2018	Change	**2019**	2018	Change
Revenue by business						
Investment Banking	**$ 1,871**	$ 1,731	8%	**$ 5,392**	$ 5,267	2 %
Treasury Services	**1,101**	1,183	(7)	**3,383**	3,480	(3)
Lending	**329**	331	(1)	**1,006**	954	5
Total Banking	**3,301**	3,245	2	**9,781**	9,701	1
Fixed Income Markets	**3,557**	2,844	25	**10,972**	10,850	1
Equity Markets	**1,517**	1,595	(5)	**4,986**	5,571	(11)
Securities Services	**1,034**	1,057	(2)	**3,093**	3,219	(4)
Credit Adjustments & Other[(a)]	**(71)**	64	NM	**(5)**	(130)	96
Total Markets & Securities Services	**6,037**	5,560	9	**19,046**	19,510	(2)
Total net revenue	**$ 9,338**	$ 8,805	6%	**$ 28,827**	$ 29,211	(1)%

(a) Consists primarily of credit valuation adjustments ("CVA") managed centrally within CIB and funding valuation adjustments ("FVA") on derivatives. Results are primarily reported in principal transactions revenue. Results are presented net of associated hedging activities and net of CVA and FVA amounts allocated to Fixed Income Markets and Equity Markets.

Quarterly results

Net income was $2.8 billion, up 7%.

Net revenue was $9.3 billion, up 6%.

Banking revenue was $3.3 billion, up 2%.

- Investment Banking revenue was $1.9 billion, up 8%, driven by higher debt and equity underwriting fees, partially offset by lower advisory fees. The Firm maintained its #1 ranking for Global Investment Banking fees with overall share gains, according to Dealogic.
  - Debt underwriting fees were $961 million, up 17%, reflecting wallet share gains despite a decline in industry-wide fees, driven by participation in large acquisition financing deals and increased activity in investment-grade bonds.
  - Equity underwriting fees were $514 million, up 22%, driven by wallet share gains primarily in the IPO and convertible markets.
  - Advisory fees were $506 million, down 13%, driven by a decline in industry-wide fees compared to a strong prior year.
- Treasury Services revenue was $1.1 billion, down 7%, driven by deposit margin compression partially offset by fee growth and higher balances.
- Lending revenue was $329 million, down 1%.

Markets & Securities Services revenue was $6.0 billion, up 9%. Markets revenue was $5.1 billion, up 14%.

- Fixed Income Markets revenue was $3.6 billion, up 25% compared to the prior year which reflected less favorable market conditions. The current quarter results were driven by strong client activity across products primarily in Rates, agency mortgage trading within Securitized Products and Commodities.
- Equity Markets revenue was $1.5 billion, down 5% compared to a strong prior year. The current quarter results were driven by lower revenue in derivatives reflecting lower client activity and less favorable market conditions which were partially offset by higher revenue in Cash Equities.
- Securities Services revenue was $1.0 billion, down 2%, with deposit margin compression largely offset by organic growth.

The provision for credit losses was $92 million, largely driven by a net addition to the allowance for credit losses related to select emerging market client downgrades. The prior year was a benefit of $42 million reflecting a net recovery related to a loan sale.

Noninterest expense was $5.3 billion, up 3%, driven by higher volume- and revenue-related expenses and investments, including compensation expense, largely offset by lower legal expenses and FDIC charges.

Year-to-date results

Net income was $9.0 billion, down 8%.

Net revenue was $28.8 billion, down 1%.

Banking revenue was $9.8 billion, up 1% compared to the prior year.

- Investment Banking revenue was $5.4 billion, up 2%, with higher debt underwriting, predominantly offset by lower advisory and equity underwriting fees. The Firm maintained its #1 ranking for Global Investment Banking fees with overall share gains, according to Dealogic.
  - Debt underwriting fees were $2.7 billion, up 7%, reflecting wallet share gains despite a decline in industry-wide fees, driven by participation in large acquisition financing deals.
  - Advisory fees were $1.7 billion, down 6%, and Equity underwriting fees were $1.3 billion, down 4%, driven by a decline in industry-wide fees despite wallet share gains.
- Treasury Services revenue was $3.4 billion, down 3%, with deposit margin compression predominantly offset by fee growth and higher balances.
- Lending revenue was $1.0 billion, up 5%, predominantly driven by higher net interest income reflecting growth in loan balances.

Markets & Securities Services revenue was $19.0 billion, down 2%. Markets revenue was $16.0 billion, down 3% which included a gain from the IPO of Tradeweb. In addition, prior year results included approximately $500 million of fair value gains related to the adoption of the recognition and measurement accounting guidance for certain equity investments previously held at cost.

- Fixed Income Markets revenue was $11.0 billion, up 1% reflecting higher revenue in agency mortgage trading within Securitized Products and Commodities partially offset by lower revenue in Currencies & Emerging Markets.
- Equity Markets revenue was $5.0 billion, down 11% compared to a strong prior year, predominantly driven by lower client activity in derivatives.
- Securities Services revenue was $3.1 billion, down 4%, driven by deposit margin compression and the impact of a business exit partially offset by organic growth.
- Credit Adjustments & Other was a loss of $5 million, compared with a loss of $130 million in the prior year.

The provision for credit losses was $179 million reflecting select C&I client downgrades including those in an emerging market. The prior year was a benefit of $142 million, primarily driven by loan sales and other activity related to a single name in the Oil & Gas portfolio, partially offset by other net portfolio activity.

Noninterest expense was $16.3 billion, flat compared to the prior year reflecting higher volume-related expenses and investments, including front office hires, as well as technology staff, predominantly offset by lower FDIC charges and revenue-related compensation expense.

Selected metrics

(in millions, except headcount)	As of or for the three months ended September 30,			As of or for the nine months ended September 30,		
	2019	2018	Change	**2019**	2018	Change
Selected balance sheet data (period-end)						
Assets	**$ 1,023,132**	$ 928,148	10%	**$ 1,023,132**	$ 928,148	10%
Loans:						
Loans retained[a]	**118,290**	117,084	1	**118,290**	117,084	1
Loans held-for-sale and loans at fair value	**8,324**	6,133	36	**8,324**	6,133	36
Total loans	**126,614**	123,217	3	**126,614**	123,217	3
Core loans	**126,445**	122,953	3	**126,445**	122,953	3
Equity	**80,000**	70,000	14	**80,000**	70,000	14
Selected balance sheet data (average)						
Assets	**$ 1,003,395**	$ 924,909	8	**$ 985,503**	$ 924,145	7
Trading assets-debt and equity instruments	**415,450**	349,390	19	**406,304**	354,270	15
Trading assets-derivative receivables	**48,266**	62,025	(22)	**49,221**	60,943	(19)
Loans:						
Loans retained[a]	**$ 119,007**	$ 115,390	3	**$ 123,368**	$ 112,921	9
Loans held-for-sale and loans at fair value	**8,344**	7,328	14	**8,239**	6,263	32
Total loans	**$ 127,351**	$ 122,718	4	**$ 131,607**	$ 119,184	10
Core loans	**127,187**	122,442	4	**131,436**	118,877	11
Equity	**80,000**	70,000	14	**80,000**	70,000	14
Headcount	**55,873**	54,052	3%	**55,873**	54,052	3%

(a) Loans retained includes credit portfolio loans, loans held by consolidated Firm-administered multi-seller conduits, trade finance loans, other held-for-investment loans and overdrafts.

Selected metrics

(in millions, except ratios)	As of or for the three months ended September 30,			As of or for the nine months ended September 30,		
	2019	2018	Change	**2019**	2018	Change
Credit data and quality statistics						
Net charge-offs/(recoveries)	**$ 38**	$ (40)	NM	**$ 140**	$ 94	49%
Nonperforming assets:						
Nonaccrual loans:						
Nonaccrual loans retained[a]	**$ 712**	$ 318	124%	**$ 712**	$ 318	124
Nonaccrual loans held-for-sale and loans at fair value	**262**	9	NM	**262**	9	NM
Total nonaccrual loans	**974**	327	198	**974**	327	198
Derivative receivables	**26**	90	(71)	**26**	90	(71)
Assets acquired in loan satisfactions	**75**	61	23	**75**	61	23
Total nonperforming assets	**$ 1,075**	$ 478	125	**$ 1,075**	$ 478	125
Allowance for credit losses:						
Allowance for loan losses	**$ 1,171**	$ 1,068	10	**$ 1,171**	$ 1,068	10
Allowance for lending-related commitments	**824**	802	3	**824**	802	3
Total allowance for credit losses	**$ 1,995**	$ 1,870	7%	**$ 1,995**	$ 1,870	7%
Net charge-off/(recovery) rate[b]	**0.13%**	(0.14)%		**0.15%**	0.11%	
Allowance for loan losses to period-end loans retained	**0.99**	0.91		**0.99**	0.91	
Allowance for loan losses to period-end loans retained, excluding trade finance and conduits[c]	**1.33**	1.27		**1.33**	1.27	
Allowance for loan losses to nonaccrual loans retained[a]	**164**	336		**164**	336	
Nonaccrual loans to total period-end loans	**0.77%**	0.27 %		**0.77%**	0.27%	

(a) Allowance for loan losses of $207 million and $145 million were held against these nonaccrual loans at September 30, 2019 and 2018, respectively.
(b) Loans held-for-sale and loans at fair value were excluded when calculating the net charge-off/(recovery) rate.
(c) Management uses allowance for loan losses to period-end loans retained, excluding trade finance and conduits, a non-GAAP financial measure, to provide a more meaningful assessment of CIB’s allowance coverage ratio.

Investment banking fees

(in millions)	Three months ended September 30, 2019	2018	Change	Nine months ended September 30, 2019	2018	Change
Advisory	**$ 506**	$ 581	(13)%	**$ 1,675**	$ 1,782	(6)%
Equity underwriting	**514**	420	22	**1,284**	1,336	(4)
Debt underwriting[(a)]	**961**	822	17	**2,712**	2,540	7
Total investment banking fees	**$ 1,981**	$ 1,823	9%	**$ 5,671**	$ 5,658	–%

(a) Represents long-term debt and loan syndications.

League table results – wallet share

	Three months ended September 30,				Nine months ended September 30,				Full-year 2018	
	2019		2018		2019		2018			
	Rank	Share	Rank	Share	Rank	Share	Rank	Share	Rank	Share
Based on fees[(a)]										
M&A[(b)]										
Global	**# 2**	**8.6%**	# 2	8.4%	**# 2**	**9.3%**	# 2	8.8%	# 2	8.7%
U.S.	**4**	**8.7**	3	7.0	**2**	**9.4**	2	9.3	2	8.9
Equity and equity-related[(c)]										
Global	**1**	**11.9**	1	9.7	**1**	**10.3**	3	9.1	1	9.0
U.S.	**1**	**17.3**	1	13.2	**1**	**13.8**	1	12.5	1	12.3
Long-term debt[(d)]										
Global	**1**	**8.8**	1	7.8	**1**	**8.0**	1	7.4	1	7.2
U.S.	**1**	**13.7**	1	12.9	**1**	**12.2**	1	11.4	1	11.2
Loan syndications										
Global	**1**	**10.1**	1	10.8	**1**	**10.6**	1	9.9	1	9.7
U.S.	**1**	**13.0**	1	14.4	**1**	**13.2**	1	12.6	1	12.3
Global investment banking fees[(e)]	**# 1**	**9.6%**	# 1	9.0%	**# 1**	**9.3%**	# 1	8.7%	# 1	8.6%

(a) Source: Dealogic as of October 1, 2019. Reflects the ranking of revenue wallet and market share.
(b) Global M&A excludes any withdrawn transactions. U.S. M&A revenue wallet represents wallet from client parents based in the U.S.
(c) Global equity and equity-related ranking includes rights offerings and Chinese A-Shares.
(d) Long-term debt rankings include investment-grade, high-yield, supranationals, sovereigns, agencies, covered bonds, asset-backed securities (“ABS”) and mortgage-backed securities (“MBS”); and exclude money market, short-term debt, and U.S. municipal securities.
(e) Global investment banking fees exclude money market, short-term debt and shelf deals.

Markets revenue

The following table summarizes select income statement data for the Markets businesses. Markets includes both Fixed Income Markets and Equity Markets. Markets revenue comprises principal transactions, fees, commissions and other income, as well as net interest income. The Firm assesses its Markets business performance on a total revenue basis, as offsets may occur across revenue line items. For example, securities that generate net interest income may be risk-managed by derivatives that are recorded in principal transactions revenue. Refer to Notes 5 and 6 for a description of the composition of these income statement line items. Refer to Markets revenue on page 69 of JPMorgan Chase's 2018 Form 10-K for further information.

For the periods presented below, the predominant source of principal transactions revenue was the amount recognized upon executing new transactions.

	Three months ended September 30, 2019			Three months ended September 30, 2018		
(in millions)	Fixed Income Markets	Equity Markets	Total Markets	Fixed Income Markets	Equity Markets	Total Markets
Principal transactions	**$ 2,292**	**$ 1,263**	**$ 3,555**	$ 1,849	$ 1,252	$ 3,101
Lending- and deposit-related fees	**51**	**1**	**52**	51	1	52
Asset management, administration and commissions	**110**	**472**	**582**	96	446	542
All other income	**108**	**54**	**162**	33	7	40
Noninterest revenue	**2,561**	**1,790**	**4,351**	2,029	1,706	3,735
Net interest income	**996**	**(273)**	**723**	815	(111)	704
Total net revenue	**$ 3,557**	**$ 1,517**	**$ 5,074**	$ 2,844	$ 1,595	$ 4,439

	Nine months ended September 30, 2019			Nine months ended September 30, 2018		
(in millions)	Fixed Income Markets	Equity Markets	Total Markets	Fixed Income Markets	Equity Markets	Total Markets
Principal transactions	**$ 7,205**	**$ 4,428**	**$ 11,633**	$ 6,795	$ 4,528	$ 11,323
Lending- and deposit-related fees	**149**	**5**	**154**	147	4	151
Asset management, administration and commissions	**310**	**1,359**	**1,669**	313	1,364	1,677
All other income	**500**	**31**	**531**	764	18	782
Noninterest revenue	**8,164**	**5,823**	**13,987**	8,019	5,914	13,933
Net interest income[(a)]	**2,808**	**(837)**	**1,971**	2,831	(343)	2,488
Total net revenue	**$ 10,972**	**$ 4,986**	**$ 15,958**	$ 10,850	$ 5,571	$ 16,421

(a) Declines in Markets net interest income were driven by higher funding costs.

Selected metrics

(in millions, except where otherwise noted)	As of or for the three months ended September 30, 2019	2018	Change	As of or for the nine months ended September 30, 2019	2018	Change
Assets under custody ("AUC") by asset class (period-end) (in billions):						
Fixed Income	**$ 13,349**	$ 12,339	8%	**$ 13,349**	$ 12,339	8%
Equity	**9,301**	9,174	1	**9,301**	9,174	1
Other[(a)]	**3,045**	2,890	5	**3,045**	2,890	5
Total AUC	**$ 25,695**	$ 24,403	5	**$ 25,695**	$ 24,403	5
Client deposits and other third-party liabilities (average)[(b)]	**$ 471,291**	$ 434,847	8%	**$ 457,961**	$ 430,640	6%

(a) Consists of mutual funds, unit investment trusts, currencies, annuities, insurance contracts, options and other contracts.
(b) Client deposits and other third-party liabilities pertain to the Treasury Services and Securities Services businesses.

International metrics

(in millions, except where otherwise noted)	As of or for the three months ended September 30, 2019	2018[(c)]	Change	As of or for the nine months ended September 30, 2019	2018[(c)]	Change
Total net revenue[(a)]						
Europe/Middle East/Africa	**$ 2,892**	$ 2,773	4%	**$ 8,955**	$ 9,936	(10)%
Asia/Pacific	**1,428**	1,234	16	**4,143**	3,997	4
Latin America/Caribbean	**404**	318	27	**1,205**	1,123	7
Total international net revenue	**4,724**	4,325	9	**14,303**	15,056	(5)
North America	**4,614**	4,480	3	**14,524**	14,155	3
Total net revenue	**$ 9,338**	$ 8,805	6	**$ 28,827**	$ 29,211	(1)
Loans retained (period-end)[(a)]						
Europe/Middle East/Africa	**$ 23,807**	$ 25,341	(6)	**$ 23,807**	$ 25,341	(6)
Asia/Pacific	**14,402**	16,907	(15)	**14,402**	16,907	(15)
Latin America/Caribbean	**5,782**	6,097	(5)	**5,782**	6,097	(5)
Total international loans	**43,991**	48,345	(9)	**43,991**	48,345	(9)
North America	**74,299**	68,739	8	**74,299**	68,739	8
Total loans retained	**$ 118,290**	$ 117,084	1	**$ 118,290**	$ 117,084	1
Client deposits and other third-party liabilities (average)[(b)]						
Europe/Middle East/Africa	**$ 175,354**	$ 162,060	8	**$ 171,601**	$ 162,102	6
Asia/Pacific	**91,556**	81,771	12	**87,866**	82,272	7
Latin America/Caribbean	**30,165**	26,196	15	**28,849**	26,477	9
Total international	**$ 297,075**	$ 270,027	10	**$ 288,316**	$ 270,851	6
North America	**174,216**	164,820	6	**169,645**	159,789	6
Total client deposits and other third-party liabilities	**$ 471,291**	$ 434,847	8	**$ 457,961**	$ 430,640	6
AUC (period-end)[(b)] (in billions)						
North America	**$ 16,146**	$ 15,148	7	**$ 16,146**	$ 15,148	7
All other regions	**9,549**	9,255	3	**9,549**	9,255	3
Total AUC	**$ 25,695**	$ 24,403	5%	**$ 25,695**	$ 24,403	5%

(a) Total net revenue and loans retained (excluding loans held-for-sale and loans at fair value) are based on the location of the trading desk, booking location, or domicile of the client, as applicable.
(b) Client deposits and other third-party liabilities pertaining to the Treasury Services and Securities Services businesses, and AUC, are based on the domicile of the client.
(c) The prior period amounts have been revised to conform with the current period presentation.

COMMERCIAL BANKING

Refer to pages 71-73 of JPMorgan Chase's 2018 Form 10-K and Line of Business Metrics on page 174 for a discussion of the business profile of CB.

Selected income statement data

	Three months ended September 30,			Nine months ended September 30,		
(in millions)	**2019**	2018	Change	**2019**	2018	Change
Revenue						
Lending- and deposit-related fees	**$ 221**	$ 216	2 %	**$ 664**	$ 666	– %
All other income[a]	**378**	360	5	**1,142**	1,092	5
Noninterest revenue	**599**	576	4	**1,806**	1,758	3
Net interest income	**1,608**	1,695	(5)	**4,950**	4,995	(1)
Total net revenue[b]	**2,207**	2,271	(3)	**6,756**	6,753	–
Provision for credit losses	**67**	(15)	NM	**186**	23	NM
Noninterest expense						
Compensation expense	**454**	432	5	**1,341**	1,268	6
Noncompensation expense	**427**	421	1	**1,277**	1,273	–
Total noninterest expense	**881**	853	3	**2,618**	2,541	3
Income before income tax expense	**1,259**	1,433	(12)	**3,952**	4,189	(6)
Income tax expense	**322**	344	(6)	**966**	988	(2)
Net income	**$ 937**	$ 1,089	(14)%	**$ 2,986**	$ 3,201	(7)%

(a) Effective in the first quarter of 2019, includes revenue from investment banking products, commercial card transactions and asset management fees. The prior period amounts have been revised to conform with the current period presentation.
(b) Total net revenue included tax-equivalent adjustments from income tax credits related to equity investments in designated community development entities that provide loans to qualified businesses in low-income communities, as well as tax-exempt income related to municipal financing activities of $114 million and $107 million for the three months ended September 30, 2019 and 2018, respectively and $308 million and $316 million for the nine months ended September 30, 2019 and 2018, respectively.

Quarterly results

Net income was $937 million, a decrease of 14%.

Net revenue was $2.2 billion, down 3%. Net interest income was $1.6 billion, down 5%, driven by lower deposit margins, partially offset by higher deposit balances. Noninterest revenue was $599 million, an increase of 4%, predominantly driven by strong investment banking performance due to increased equity underwriting and M&A activity.

Noninterest expense was $881 million, up 3%, predominantly driven by investments in the business, largely offset by lower FDIC charges.

The provision for credit losses was $67 million, compared with a benefit of $15 million in the prior year.

Year-to-date results

Net income was $3.0 billion, a decrease of 7%.

Net revenue of $6.8 billion was flat. Net interest income was $5.0 billion, a decrease of 1%, driven by lower loan spreads and lower deposit balances, largely offset by higher deposit margins. Noninterest revenue was $1.8 billion, up 3% driven by higher investment banking revenue, predominantly due to increased equity underwriting and M&A activity.

Noninterest expense was $2.6 billion, an increase of 3%, predominantly driven by continued investments in the business, largely offset by lower FDIC charges.

The provision for credit losses was $186 million, largely driven by a net addition to the allowance for credit losses related to select C&I client downgrades.

Selected income statement data (continued)

(in millions, except ratios)	Three months ended September 30, 2019	2018	Change	Nine months ended September 30, 2019	2018	Change
Revenue by product						
Lending	**$ 1,006**	$ 1,027	(2)%	**$ 3,030**	$ 3,052	(1)%
Treasury services	**950**	1,021	(7)	**2,968**	3,019	(2)
Investment banking[a]	**226**	206	10	**708**	644	10
Other	**25**	17	47	**50**	38	32
Total Commercial Banking net revenue	**$ 2,207**	$ 2,271	(3)	**$ 6,756**	$ 6,753	–
Investment banking revenue, gross[b]	**$ 700**	$ 581	20	**$ 2,110**	$ 1,889	12
Revenue by client segments						
Middle Market Banking	**$ 903**	$ 935	(3)	**$ 2,793**	$ 2,749	2
Corporate Client Banking	**739**	749	(1)	**2,264**	2,243	1
Commercial Real Estate Banking[c]	**547**	562	(3)	**1,632**	1,681	(3)
Other[c]	**18**	25	(28)	**67**	80	(16)
Total Commercial Banking net revenue	**$ 2,207**	$ 2,271	(3)%	**$ 6,756**	$ 6,753	– %
Financial ratios						
Return on equity	**16%**	21%		**17%**	20%	
Overhead ratio	**40**	38		**39**	38	

(a) Includes CB's share of revenue from investment banking products sold to CB clients through the CIB.
(b) Refer to page 60 of the 2018 Form 10-K for discussion of revenue sharing.
(c) Effective in the first quarter of 2019, client segment data includes Commercial Real Estate Banking which comprises the former Commercial Term Lending and Real Estate Banking client segments, and Community Development Banking (previously part of Other). The prior period amounts have been revised to conform with the current period presentation.

Selected metrics

(in millions, except headcount)	As of or for the three months ended September 30, 2019	2018	Change	As of or for the nine months ended September 30, 2019	2018	Change
Selected balance sheet data (period-end)						
Total assets	**$ 222,483**	$ 217,194	2%	**$ 222,483**	$ 217,194	2%
Loans:						
Loans retained	**209,448**	205,177	2	**209,448**	205,177	2
Loans held-for-sale and loans at fair value	**3,187**	405	NM	**3,187**	405	NM
Total loans	**$ 212,635**	$ 205,582	3	**$ 212,635**	$ 205,582	3
Core loans	**212,514**	205,418	3	**212,514**	205,418	3
Equity	**22,000**	20,000	10	**22,000**	20,000	10
Period-end loans by client segment						
Middle Market Banking	**$ 54,298**	$ 57,324	(5)	**$ 54,298**	$ 57,324	(5)
Corporate Client Banking	**55,976**	46,890	19	**55,976**	46,890	19
Commercial Real Estate Banking[(a)]	**101,326**	100,072	1	**101,326**	100,072	1
Other[(a)]	**1,035**	1,296	(20)	**1,035**	1,296	(20)
Total Commercial Banking loans	**$ 212,635**	$ 205,582	3	**$ 212,635**	$ 205,582	3
Selected balance sheet data (average)						
Total assets	**$ 218,620**	$ 219,232	–	**$ 218,560**	$ 218,270	–
Loans:						
Loans retained	**207,286**	205,603	1	**206,183**	203,950	1
Loans held-for-sale and loans at fair value	**963**	1,617	(40)	**1,097**	1,139	(4)
Total loans	**$ 208,249**	$ 207,220	–	**$ 207,280**	$ 205,089	1
Core loans	**208,125**	207,052	1	**207,145**	204,902	1
Average loans by client segment						
Middle Market Banking	**$ 54,806**	$ 57,258	(4)	**$ 56,221**	$ 57,121	(2)
Corporate Client Banking	**51,389**	49,004	5	**49,407**	47,650	4
Commercial Real Estate Banking[(a)]	**101,044**	99,627	1	**100,663**	98,880	2
Other[(a)]	**1,010**	1,331	(24)	**989**	1,438	(31)
Total Commercial Banking loans	**$ 208,249**	$ 207,220	–	**$ 207,280**	$ 205,089	1
Client deposits and other third-party liabilities	**$ 172,714**	$ 168,169	3	**$ 169,427**	$ 171,483	(1)
Equity	**22,000**	20,000	10	**22,000**	20,000	10
Headcount	**11,501**	10,937	5%	**11,501**	10,937	5%

(a) Effective in the first quarter of 2019, client segment data includes Commercial Real Estate Banking which comprises the former Commercial Term Lending and Real Estate Banking client segments, and Community Development Banking (previously part of Other). The prior period amounts have been revised to conform with the current period presentation.

Selected metrics (continued)

(in millions, except ratios)	As of or for the three months ended September 30,			As of or for the nine months ended September 30,		
	2019	2018	Change	**2019**	2018	Change
Credit data and quality statistics						
Net charge-offs/(recoveries)	**$ 45**	$ (18)	NM	**$ 71**	$ 16	344%
Nonperforming assets						
Nonaccrual loans:						
Nonaccrual loans retained[a]	**$ 659**	$ 452	46%	**$ 659**	$ 452	46%
Nonaccrual loans held-for-sale and loans at fair value	**—**	5	NM	**—**	5	NM
Total nonaccrual loans	**$ 659**	$ 457	44	**$ 659**	$ 457	44
Assets acquired in loan satisfactions	**19**	2	NM	**19**	2	NM
Total nonperforming assets	**$ 678**	$ 459	48	**$ 678**	$ 459	48
Allowance for credit losses:						
Allowance for loan losses	**$ 2,759**	$ 2,619	5	**$ 2,759**	$ 2,619	5
Allowance for lending-related commitments	**293**	249	18	**293**	249	18
Total allowance for credit losses	**$ 3,052**	$ 2,868	6%	**$ 3,052**	$ 2,868	6%
Net charge-off/(recovery) rate[b]	**0.09%**	(0.03)%		**0.05%**	0.01%	
Allowance for loan losses to period-end loans retained	**1.32**	1.28		**1.32**	1.28	
Allowance for loan losses to nonaccrual loans retained[a]	**419**	579		**419**	579	
Nonaccrual loans to period-end total loans	**0.31**	0.22		**0.31**	0.22	

(a) Allowance for loan losses of $119 million and $105 million was held against nonaccrual loans retained at September 30, 2019 and 2018, respectively.
(b) Loans held-for-sale and loans at fair value were excluded when calculating the net charge-off/(recovery) rate.

Refer to pages 74-76 of JPMorgan Chase's 2018 Form 10-K and Line of Business Metrics on pages 174-175 for a discussion of the business profile of AWM.

Selected income statement data

	Three months ended September 30,			Nine months ended September 30,		
(in millions, except ratios)	**2019**	2018	Change	**2019**	2018	Change
Revenue						
Asset management, administration and commissions	**$ 2,574**	$ 2,563	—%	**$ 7,558**	$ 7,623	(1)%
All other income	**139**	117	19	**431**	374	15
Noninterest revenue	**2,713**	2,680	1	**7,989**	7,997	—
Net interest income	**855**	879	(3)	**2,627**	2,640	—
Total net revenue	**3,568**	3,559	—	**10,616**	10,637	—
Provision for credit losses	**44**	23	91	**48**	40	20
Noninterest expense						
Compensation expense	**1,391**	1,391	—	**4,259**	4,112	4
Noncompensation expense	**1,231**	1,194	3	**3,606**	3,620	—
Total noninterest expense	**2,622**	2,585	1	**7,865**	7,732	2
Income before income tax expense	**902**	951	(5)	**2,703**	2,865	(6)
Income tax expense	**234**	227	3	**655**	616	6
Net income	**$ 668**	$ 724	(8)	**$ 2,048**	$ 2,249	(9)
Revenue by line of business						
Asset Management	**$ 1,816**	$ 1,827	(1)	**$ 5,362**	$ 5,440	(1)
Wealth Management	**1,752**	1,732	1	**5,254**	5,197	1
Total net revenue	**$ 3,568**	$ 3,559	—%	**$ 10,616**	$ 10,637	— %
Financial ratios						
Return on equity	**24%**	31%		**25%**	32%	
Overhead ratio	**73**	73		**74**	73	
Pre-tax margin ratio:						
Asset Management	**25**	27		**25**	27	
Wealth Management	**25**	26		**26**	27	
Asset & Wealth Management	**25**	27		**25**	27	

Quarterly results

Net income was $668 million, a decrease of 8%.

Net revenue of $3.6 billion was flat. Net interest income was $855 million, down 3%, driven by deposit margin compression, largely offset by deposit and loan growth. Noninterest revenue was $2.7 billion, up 1%, driven by higher average market levels.

The provision for credit losses was $44 million, driven by net charge-offs, as well as net additions to the allowance for loan losses predominantly due to loan growth.

Noninterest expense was $2.6 billion, an increase of 1%, predominantly driven by continued investments in technology and advisors, partially offset by lower distribution and legal fees.

Year-to-date results

Net income was $2.0 billion, a decrease of 9%.

Net revenue of $10.6 billion was flat. Net interest income of $2.6 billion was flat, reflecting loan growth, offset by deposit margin compression. Noninterest revenue of $8.0 billion was flat, reflecting a shift in the mix toward lower fee products and lower brokerage activity, offset by higher net investment valuation gains.

The provision for credit losses was $48 million, driven by net charge-offs, as well as net additions to the allowance for loan losses predominantly due to loan growth.

Noninterest expense was $7.9 billion, an increase of 2%, predominantly driven by continued investments in technology and advisors, partially offset by lower distribution fees.

Selected metrics

(in millions, except ranking data, headcount and ratios)	As of or for the three months ended September 30,			As of or for the nine months ended September 30,		
	2019	2018	Change	**2019**	2018	Change
% of JPM mutual fund assets rated as 4- or 5-star[(a)]	**65%**	64%		**65%**	64%	
% of JPM mutual fund assets ranked in 1st or 2nd quartile:[(b)]						
1 year	**74**	65		**74**	65	
3 years	**80**	64		**80**	64	
5 years	**86**	83		**86**	83	
Selected balance sheet data (period-end)						
Total assets	**$ 174,226**	$ 166,716	5%	**$ 174,226**	$ 166,716	5%
Loans	**153,245**	143,162	7	**153,245**	143,162	7
Core loans	**153,245**	143,162	7	**153,245**	143,162	7
Deposits	**138,439**	130,497	6	**138,439**	130,497	6
Equity	**10,500**	9,000	17	**10,500**	9,000	17
Selected balance sheet data (average)						
Total assets	**$ 171,121**	$ 161,982	6	**$ 168,688**	$ 158,218	7
Loans	**150,486**	140,558	7	**147,481**	136,663	8
Core loans	**150,486**	140,558	7	**147,481**	136,663	8
Deposits	**138,822**	133,021	4	**139,127**	138,885	–
Equity	**10,500**	9,000	17	**10,500**	9,000	17
Headcount	**24,228**	23,747	2	**24,228**	23,747	2
Number of Wealth Management client advisors	**2,872**	2,808	2	**2,872**	2,808	2
Credit data and quality statistics						
Net charge-offs	**$ 26**	$ 11	136	**$ 27**	$ 7	286
Nonaccrual loans	**176**	285	(38)	**176**	285	(38)
Allowance for credit losses:						
Allowance for loan losses	**$ 350**	$ 317	10	**$ 350**	$ 317	10
Allowance for lending-related commitments	**16**	15	7	**16**	15	7
Total allowance for credit losses	**$ 366**	$ 332	10%	**$ 366**	$ 332	10%
Net charge-off rate	**0.07%**	0.03%		**0.02%**	0.01%	
Allowance for loan losses to period-end loans	**0.23**	0.22		**0.23**	0.22	
Allowance for loan losses to nonaccrual loans	**199**	111		**199**	111	
Nonaccrual loans to period-end loans	**0.11**	0.20		**0.11**	0.20	

(a) Represents the "overall star rating" derived from Morningstar for the U.S., the U.K., Luxembourg, Hong Kong and Taiwan domiciled funds; and Nomura "star rating" for Japan domiciled funds. Includes only Asset Management retail open-ended mutual funds that have a rating. Excludes money market funds, Undiscovered Managers Fund, and Brazil and India domiciled funds.

(b) Quartile ranking sourced from: Lipper for the U.S. and Taiwan domiciled funds; Morningstar for the U.K., Luxembourg and Hong Kong domiciled funds; Nomura for Japan domiciled funds and Fund Doctor for South Korea domiciled funds. Includes only Asset Management retail open-ended mutual funds that are ranked by the aforementioned sources. Excludes money market funds, Undiscovered Managers Fund, and Brazil and India domiciled funds.

Client assets

Client assets of $3.1 trillion and assets under management of $2.2 trillion were up 7% and 8% respectively, predominantly driven by net inflows into long-term and liquidity products as well as higher market levels globally.

Client assets

(in billions)	September 30, 2019	2018	Change
Assets by asset class			
Liquidity	**$ 505**	$ 463	9%
Fixed income	**590**	457	29
Equity	**437**	452	(3)
Multi-asset and alternatives	**714**	705	1
Total assets under management	**2,246**	2,077	8
Custody/brokerage/administration/deposits	**815**	790	3
Total client assets	**$ 3,061**	$ 2,867	7
Memo:			
Alternatives client assets [(a)]	**$ 183**	$ 172	6
Assets by client segment			
Private Banking	**$ 636**	$ 576	10
Institutional	**1,029**	945	9
Retail	**581**	556	4
Total assets under management	**$ 2,246**	$ 2,077	8
Private Banking	**$ 1,424**	$ 1,339	6
Institutional	**1,051**	967	9
Retail	**586**	561	4
Total client assets	**$ 3,061**	$ 2,867	7%

(a) Represents assets under management, as well as client balances in brokerage accounts

Client assets (continued)

(in billions)	Three months ended September 30, 2019	2018	Nine months ended September 30, 2019	2018
Assets under management rollforward				
Beginning balance	**$ 2,178**	$ 2,028	**$ 1,987**	$ 2,034
Net asset flows:				
Liquidity	**24**	14	**23**	10
Fixed income	**41**	3	**97**	(9)
Equity	**(2)**	1	**(9)**	8
Multi-asset and alternatives	**1**	4	**(2)**	29
Market/performance/other impacts	**4**	27	**150**	5
Ending balance, September 30	**$ 2,246**	$ 2,077	**$ 2,246**	$ 2,077
Client assets rollforward				
Beginning balance	**$ 2,998**	$ 2,799	**$ 2,733**	$ 2,789
Net asset flows	**59**	33	**120**	58
Market/performance/other impacts	**4**	35	**208**	20
Ending balance, September 30	**$ 3,061**	$ 2,867	**$ 3,061**	$ 2,867

International metrics

(in millions)	As of or for the three months ended September 30, 2019	2018	Change	As of or for the nine months ended September 30, 2019	2018	Change
Total net revenue [a]						
Europe/Middle East/Africa	**$ 672**	$ 677	(1)%	**$ 2,014**	$ 2,095	(4)%
Asia/Pacific	**376**	377	—	**1,104**	1,161	(5)
Latin America/Caribbean	**218**	228	(4)	**658**	689	(4)
Total international net revenue	**1,266**	1,282	(1)	**3,776**	3,945	(4)
North America	**2,302**	2,277	1	**6,840**	6,692	2
Total net revenue[a]	**$ 3,568**	$ 3,559	—%	**$ 10,616**	$ 10,637	— %

(a) Regional revenue is based on the domicile of the client.

(in billions)	As of or for the three months ended September 30, 2019	2018	Change	As of or for the nine months ended September 30, 2019	2018	Change
Assets under management						
Europe/Middle East/Africa	**$ 387**	$ 375	3%	**$ 387**	$ 375	3%
Asia/Pacific	**183**	164	12	**183**	164	12
Latin America/Caribbean	**70**	65	8	**70**	65	8
Total international assets under management	**640**	604	6	**640**	604	6
North America	**1,606**	1,473	9	**1,606**	1,473	9
Total assets under management	**$ 2,246**	$ 2,077	8	**$ 2,246**	$ 2,077	8
Client assets						
Europe/Middle East/Africa	**$ 455**	$ 435	5	**$ 455**	$ 435	5
Asia/Pacific	**253**	228	11	**253**	228	11
Latin America/Caribbean	**172**	162	6	**172**	162	6
Total international client assets	**880**	825	7	**880**	825	7
North America	**2,181**	2,042	7	**2,181**	2,042	7
Total client assets	**$ 3,061**	$ 2,867	7%	**$ 3,061**	$ 2,867	7%

CORPORATE

Refer to pages 77–78 of JPMorgan Chase's 2018 Form 10-K for a discussion of Corporate.

Selected income statement and balance sheet data

(in millions, except headcount)	As of or for the three months ended September 30, 2019	2018	Change	As of or for the nine months ended September 30, 2019	2018	Change
Revenue						
Principal transactions	**$ 10**	$ (161)	NM	**$ (227)**	$ (222)	(2)%
Investment securities gains/(losses)	**78**	(46)	NM	**135**	(371)	NM
All other income	**32**	30	7%	**95**	373	(75)
Noninterest revenue	**120**	(177)	NM	**3**	(220)	NM
Net interest income	**572**	74	NM	**1,436**	(35)	NM
Total net revenue[(a)]	**692**	(103)	NM	**1,439**	(255)	NM
Provision for credit losses	**—**	2	NM	**—**	(3)	NM
Noninterest expense[(b)]	**281**	28	NM	**724**	394	84
Income/(loss) before income tax expense/(benefit)	**411**	(133)	NM	**715**	(646)	NM
Income tax expense/(benefit)	**18**	12	50	**(757)**	18	NM
Net income/(loss)	**$ 393**	$ (145)	NM	**$ 1,472**	$ (664)	NM
Total net revenue						
Treasury and CIO	**$ 801**	$ 186	331	**$ 1,930**	$ 235	NM
Other Corporate	**(109)**	(289)	62	**(491)**	(490)	—
Total net revenue	**$ 692**	$ (103)	NM	**$ 1,439**	$ (255)	NM
Net income/(loss)						
Treasury and CIO	**$ 576**	$ 96	500	**$ 1,372**	$ (244)	NM
Other Corporate	**(183)**	(241)	24	**100**	(420)	NM
Total net income/(loss)	**$ 393**	$ (145)	NM	**$ 1,472**	$ (664)	NM
Total assets (period-end)	**$ 812,333**	$ 742,693	9	**$ 812,333**	$ 742,693	9
Loans (period-end)	**1,705**	1,556	10	**1,705**	1,556	10
Core loans[(c)]	**1,706**	1,556	10	**1,706**	1,556	10
Headcount	**38,155**	36,686	4%	**38,155**	36,686	4 %

(a) Included tax-equivalent adjustments, driven by tax-exempt income from municipal bonds, of $74 million and $94 million for the three months ended September 30, 2019 and 2018, respectively, and $241 million and $287 million for the nine months ended September 30, 2019 and 2018, respectively.
(b) Included a net legal benefit of $(32) million and $(175) million for the three months ended September 30, 2019 and 2018, respectively, and $(189) million and $(225) million for the nine months ended September 30, 2019 and 2018, respectively.
(c) Average core loans were $1.7 billion and $1.6 billion for the three months ended September 30, 2019 and 2018, respectively, and $1.7 billion for both the nine months ended September 30, 2019 and 2018.

Quarterly results

Net income was $393 million, compared with a net loss of $145 million in the prior year.

Net revenue was $692 million, compared with a net loss of $103 million in the prior year, driven by higher net interest income and noninterest revenue. Net interest income was driven by balance sheet growth and changes in mix, partially offset by lower rates. Net interest income also includes income related to the unwind of the internal funding provided to CCB upon the sale of certain mortgage loans. The income reflects the net present value of that funding and is recognized as a charge to net interest income in CCB. Refer to CCB on pages 23–24 of this Form 10-Q and Funds Transfer Pricing ("FTP") on page 60 of the Firm's 2018 Form 10-K for further information.

Noninterest revenue increased reflecting small net gains on certain legacy private equity investments compared to net losses in the prior year.

Noninterest expense of $281 million was up $253 million due to higher investments in technology and a lower net legal benefit compared with the prior year.

The current period included tax benefits related to the resolution of certain tax audits as well as other tax adjustments, which were partially offset by changes to certain tax reserves. The prior year reflected a net benefit of $132 million resulting from changes in estimates under the TCJA related to the remeasurement of certain deferred taxes and the deemed repatriation tax on non-U.S. earnings, which was more than offset by changes to certain tax reserves and other tax adjustments.

Year-to-date results

Net income was $1.5 billion, compared with a net loss of $664 million in the prior year.

Net revenue was $1.4 billion, compared with a net loss of $255 million in the prior year driven by higher net interest income and noninterest revenue. Net interest income was

driven by balance sheet growth and changes in mix and includes the income related to the unwind of the internal funding, as mentioned above.

Noninterest revenue increased reflecting:

- investment securities gains compared with losses in the prior year due to the repositioning of the investment securities portfolio
- lower net valuation losses on certain legacy private equity investments,

partially offset by

- losses on cash deployment transactions which were more than offset by the related net interest income earned on those transactions.

Noninterest expense of $724 million, was up $330 million reflecting:

- higher investments in technology and real estate,
- contributions to the Firm's Foundation, whereas all prior-year contributions were made in the fourth quarter, and
- higher pension costs due to changes to actuarial assumptions and estimates.

The prior year included a $174 million loss on the liquidation of a legal entity.

The current period included tax benefits of $957 million related to the resolution of certain tax audits, as well as other tax adjustments partially offset by changes in certain tax reserves. The prior year expense reflected changes to certain tax reserves, largely offset by a net benefit of $305 million resulting from changes in estimates under the TCJA related to the remeasurement of certain deferred taxes and the deemed repatriation tax on non-U.S. earnings as well as other tax adjustments.

Treasury and CIO overview

At September 30, 2019, the average credit rating of the Treasury and CIO investment securities comprising the portfolio in the table below was AA+ (based upon external ratings where available and, where not available, based primarily upon internal ratings that correspond to ratings as defined by S&P and Moody's). Refer to Note 9 for further information on the Firm's investment securities portfolio.

Refer to Liquidity Risk Management on pages 50–54 for further information on liquidity and funding risk. Refer to Market Risk Management on pages 70–74 for information on interest rate, foreign exchange and other risks.

Selected income statement and balance sheet data

	As of or for the three months ended September 30,			As of or for the nine months ended September 30,		
(in millions)	**2019**	2018	Change	**2019**	2018	Change
Investment securities gains/(losses)	**$ 78**	$ (46)	NM	**$ 135**	$ (371)	NM
Available-for-sale ("AFS") investment securities (average)	**$ 305,894**	$ 197,230	55%	**$ 260,661**	$ 200,569	30%
Held-to-maturity ("HTM") investment securities (average)	**35,494**	31,232	14	**32,518**	31,842	2
Investment securities portfolio (average)	**$ 341,388**	$ 228,462	49	**$ 293,179**	$ 232,411	26
AFS investment securities (period-end)	**$ 351,599**	$ 198,523	77	**$ 351,599**	$ 198,523	77
HTM investment securities (period-end)	**40,830**	31,368	30	**40,830**	31,368	30
Investment securities portfolio (period-end)	**$ 392,429**	$ 229,891	71%	**$ 392,429**	$ 229,891	71%

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

The Firm believes that effective risk management requires:

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

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

Firmwide Risk Management is overseen and managed on an enterprise-wide basis. The Firm's risk management governance and oversight framework involves understanding drivers of risks, types of risks, and impacts of risks.

Refer to pages 79-83 of JPMorgan Chase's 2018 Form 10-K for a further discussion of Enterprise-wide risk management governance and oversight.

Effective July 2019, the Board of Directors' Risk Policy Committee ("DRPC") was renamed the Risk Committee. The committee's responsibilities were not changed. Refer to page 81 of JPMorgan Chase's 2018 Form 10-K for a further discussion of the committee.

Governance and Oversight Functions

The following sections of this Form 10-Q and the 2018 Form 10-K discuss the risk governance and oversight functions in place to manage the risks inherent in the Firm's business activities.

Risk governance and oversight functions	Form 10-Q page reference	Form 10-K page reference
Strategic risk		84
Capital risk	45-49	85-94
Liquidity risk	50-54	95-100
Reputation risk		101
Consumer credit risk	56-59	106-111
Wholesale credit risk	60-66	112-119
Investment portfolio risk	69	123
Market risk	70-74	124-131
Country risk	75	132-133
Operational risk		134-136
Compliance risk		137
Conduct risk		138
Legal risk		139
Estimations and Model risk		140

Capital risk is the risk the Firm has an insufficient level and composition of capital to support the Firm's business activities and associated risks during normal economic environments and under stressed conditions.

Refer to pages 85-94 of JPMorgan Chase's 2018 Form 10-K, Note 21 of this Form 10-Q and the Firm's Pillar 3 Regulatory Capital Disclosures reports, which are available on the Firm's website for a further discussion of the Firm's Capital Risk Management, including capital planning and stress testing.

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 ("BHC") and banks, including the Firm and its insured depository institution ("IDI") subsidiaries, including JPMorgan Chase Bank, N.A. Two comprehensive approaches are prescribed for calculating RWA: a standardized approach ("Basel III Standardized"), and an advanced approach ("Basel III Advanced"). Effective January 1, 2019, the capital adequacy of the Firm is evaluated against the fully phased-in measures under Basel III and represents the lower of the Standardized or Advanced approaches. During 2018, the required capital measures were subject to the transitional rules and as of December 31, 2018 the calculations were the same on a fully phased-in and on a transitional basis. The Firm's Basel III Standardized risk-based ratios are currently more binding than the Basel III Advanced risk-based ratios, and the Firm expects that this will remain the case for the foreseeable future.

Basel III also includes a requirement for Advanced Approach banking organizations, including the Firm, to calculate the SLR. Refer to page 91 of JPMorgan Chase's 2018 Form 10-K for additional information on SLR.

The following tables present the Firm's risk-based and leverage-based capital measures under both the Basel III Standardized and Advanced Approaches. The Firm's Basel III ratios exceeded regulatory minimums as of September 30, 2019 and December 31, 2018. Refer to Capital Risk Management on pages 85-94 of JPMorgan Chase's 2018 Form 10-K for a further discussion of these capital metrics.

	September 30, 2019			December 31, 2018		
(in millions)	Standardized	Advanced	Minimum capital ratios	Standardized[b]	Advanced[b]	Minimum capital ratios
Risk-based capital metrics:						
CET1 capital	**$ 188,151**	**$ 188,151**		$ 183,474	$ 183,474	
Tier 1 capital	**214,831**	**214,831**		209,093	209,093	
Total capital	**243,500**	**233,203**		237,511	227,435	
Risk-weighted assets	**1,527,762**	**1,435,693**		1,528,916	1,421,205	
CET1 capital ratio	**12.3%**	**13.1%**	**10.5%**	12.0%	12.9%	9.0%
Tier 1 capital ratio	**14.1**	**15.0**	**12.0**	13.7	14.7	10.5
Total capital ratio	**15.9**	**16.2**	**14.0**	15.5	16.0	12.5
Leverage-based capital metrics:						
Adjusted average assets[a]	**$ 2,717,852**	**$ 2,717,852**		$ 2,589,887	$ 2,589,887	
Tier 1 leverage ratio	**7.9%**	**7.9%**	**4.0%**	8.1%	8.1%	4.0%
Total leverage exposure	**NA**	**$ 3,404,535**		NA	$ 3,269,988	
SLR	**NA**	**6.3%**	**5.0%**	NA	6.4%	5.0%

(a) Adjusted average assets, for purposes of calculating the Tier 1 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.

(b) The Firm's capital ratios as of December 31, 2018 were equivalent whether calculated on a transitional or fully phased-in basis.

Capital components

The following table presents reconciliations of total stockholders' equity to Basel III CET1 capital, Tier 1 capital and Total capital as of September 30, 2019 and December 31, 2018.

(in millions)	September 30, 2019	December 31, 2018
Total stockholders' equity	**$ 264,348**	$ 256,515
Less: Preferred stock[(a)]	28,363	26,068
Common stockholders' equity	**235,985**	230,447
Less:		
Goodwill	47,818	47,471
Other intangible assets	841	748
Other CET1 capital adjustments	1,546	1,034
Add:		
Deferred tax liabilities[(b)]	2,371	2,280
Standardized/Advanced CET1 capital	**188,151**	183,474
Preferred stock[(a)]	28,363	26,068
Less: Other Tier 1 adjustments[(a)]	1,683	449
Standardized/Advanced Tier 1 capital	**$ 214,831**	$ 209,093
Long-term debt and other instruments qualifying as Tier 2 capital	$ 14,145	$ 13,772
Qualifying allowance for credit losses	14,400	14,500
Other	124	146
Standardized Tier 2 capital	**$ 28,669**	$ 28,418
Standardized Total capital	**$ 243,500**	$ 237,511
Adjustment in qualifying allowance for credit losses for Advanced Tier 2 capital	(10,297)	(10,076)
Advanced Tier 2 capital	**$ 18,372**	$ 18,342
Advanced Total capital	**$ 233,203**	$ 227,435

(a) As of September 30, 2019, preferred stock reflects the issuance of $2.25 billion of Series FF preferred stock and redemption of $880 million of Series W preferred stock. Other Tier 1 adjustments includes $1.37 billion of Series I preferred stock called for partial redemption on September 26, 2019 and subsequently redeemed on October 30, 2019. Tier 1 capital as of September 30, 2019 reflects the issuance and redemptions.

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

Capital rollforward

The following table presents the changes in Basel III CET1 capital, Tier 1 capital and Tier 2 capital for the nine months ended September 30, 2019.

Nine months ended September 30, (in millions)	2019
Standardized/Advanced CET1 capital at December 31, 2018	$ 183,474
Net income applicable to common equity	26,710
Dividends declared on common stock	(8,086)
Net purchase of treasury stock	(15,805)
Changes in additional paid-in capital	(650)
Changes related to AOCI	2,877
Adjustment related to DVA[(a)]	287
Changes related to other CET1 capital adjustments	(656)
Change in Standardized/Advanced CET1 capital	4,677
Standardized/Advanced CET1 capital at September 30, 2019	**$ 188,151**
Standardized/Advanced Tier 1 capital at December 31, 2018	$ 209,093
Change in CET1 capital	4,677
Net issuance of noncumulative perpetual preferred stock[(b)]	925
Other	136
Change in Standardized/Advanced Tier 1 capital	5,738
Standardized/Advanced Tier 1 capital at September 30, 2019	**$ 214,831**
Standardized Tier 2 capital at December 31, 2018	$ 28,418
Change in long-term debt and other instruments qualifying as Tier 2	373
Change in qualifying allowance for credit losses	(101)
Other	(21)
Change in Standardized Tier 2 capital	251
Standardized Tier 2 capital at September 30, 2019	**$ 28,669**
Standardized Total capital at September 30, 2019	**$ 243,500**
Advanced Tier 2 capital at December 31, 2018	$ 18,342
Change in long-term debt and other instruments qualifying as Tier 2	373
Change in qualifying allowance for credit losses	(322)
Other	(21)
Change in Advanced Tier 2 capital	30
Advanced Tier 2 capital at September 30, 2019	**$ 18,372**
Advanced Total capital at September 30, 2019	**$ 233,203**

(a) Includes DVA related to structured notes recorded in AOCI.

(b) Includes the net effect of $2.25 billion and $1.85 billion of non-cumulative preferred stock issued on July 31, 2019 and January 24, 2019, respectively, and redemptions of non-cumulative preferred stock of $925 million and $880 million on March 1, 2019 and September 1, 2019, respectively, as well as $1.37 billion of non-cumulative preferred stock that was called for partial redemption on September 26, 2019 and subsequently redeemed on October 30, 2019.

RWA rollforward

The following table presents changes in the components of RWA under Basel III Standardized and Advanced for the nine months ended September 30, 2019. The amounts in the rollforward categories are estimates, based on the predominant driver of the change.

	Standardized			Advanced			
Nine months ended September 30, 2019 (in millions)	Credit risk RWA	Market risk RWA	**Total RWA**	Credit risk RWA	Market risk RWA	Operational risk RWA	**Total RWA**
December 31, 2018	$ 1,423,053	$ 105,863	**$ 1,528,916**	$ 926,647	$ 105,976	$ 388,582	**$ 1,421,205**
Model & data changes[a]	(3,406)	(17,076)	**(20,482)**	(4,542)	(17,076)	–	**(21,618)**
Portfolio runoff[b]	(4,400)	–	**(4,400)**	(4,300)	–	–	**(4,300)**
Movement in portfolio levels[c]	24,711	(983)	**23,728**	44,408	(1,136)	(2,866)	**40,406**
Changes in RWA	16,905	(18,059)	**(1,154)**	35,566	(18,212)	(2,866)	**14,488**
September 30, 2019	**$ 1,439,958**	**$ 87,804**	**$ 1,527,762**	**$ 962,213**	**$ 87,764**	**$ 385,716**	**$ 1,435,693**

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

(b) Portfolio runoff for credit risk RWA primarily reflects reduced risk from position rolloffs in legacy portfolios in Home Lending.

(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; and updates to cumulative losses for operational risk RWA.

Supplementary leverage ratio

Refer to Capital Risk Management on page 88 of JPMorgan Chase's 2018 Form 10-K for additional information.

The following table presents the components of the Firm's SLR as of September 30, 2019 and December 31, 2018.

(in millions, except ratio)	**September 30, 2019**	December 31, 2018
Tier 1 capital	**$ 214,831**	$ 209,093
Total average assets	2,765,052	2,636,505
Less: Adjustments for deductions from Tier 1 capital	47,200	46,618
Total adjusted average assets[a]	2,717,852	2,589,887
Off-balance sheet exposures[b]	686,683	680,101
Total leverage exposure	**$ 3,404,535**	$ 3,269,988
SLR	**6.3%**	6.4%

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

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

Refer to Note 21 for JPMorgan Chase Bank, N.A.'s SLR ratios.

Line of business equity

Each business segment is allocated capital by taking into consideration a variety of factors including capital levels of similarly rated peers and applicable regulatory capital requirements. Effective January 1, 2019, line of business capital allocations have increased due to a combination of changes in the relative weights, with greater emphasis on Standardized RWA and stress, a higher capitalization rate, updated stress simulations, and general business growth. Refer to page 91 of JPMorgan Chase's 2018 Form 10-K for additional information.

The following table represents the capital allocated to each business segment:

(in billions)	**September 30, 2019**	December 31, 2018
Consumer & Community Banking	**$ 52.0**	$ 51.0
Corporate & Investment Bank	**80.0**	70.0
Commercial Banking	**22.0**	20.0
Asset & Wealth Management	**10.5**	9.0
Corporate	**71.5**	80.4
Total common stockholders' equity	**$ 236.0**	$ 230.4

Planning and stress testing

Comprehensive Capital Analysis and Review ("CCAR")

On June 27, 2019, the Federal Reserve informed the Firm that it did not object to the Firm's 2019 capital plan.

Capital actions

Preferred stock

Preferred stock dividends declared were $423 million and $1.2 billion for the three and nine months ended September 30, 2019.

On October 31, 2019, the Firm announced and priced an offering of depositary shares representing $900 million of 4.75% non-cumulative preferred stock, Series GG. This issuance is expected to close on November 7, 2019. On November 1, 2019, the Firm announced that it will redeem all $900 million of its 5.45% non-cumulative preferred stock, Series P on December 1, 2019.

On October 30, 2019, the Firm redeemed $1.37 billion of its Series I fixed-to-floating rate non-cumulative perpetual preferred stock.

On September 1, 2019, the Firm redeemed all $880 million of its 6.30% non-cumulative preferred stock, Series W.

On July 31, 2019, the Firm issued $2.25 billion of fixed-to-floating rate non-cumulative preferred stock, Series FF.

Refer to Note 17 of this Form 10-Q and Note 20 of JPMorgan Chase's 2018 Form 10-K for additional information on the Firm's preferred stock.

Common stock dividends

On September 17, 2019, the Firm announced that its Board of Directors had declared a quarterly common stock dividend, which increased to $0.90 per share, from $0.80 per share effective with the dividend paid on October 31, 2019. The Firm's dividends are subject to the Board of Directors' approval on a quarterly basis.

Common equity

The Firm's Board of Directors has authorized the repurchase of up to $29.4 billion of gross common equity between July 1, 2019 and June 30, 2020 as part of the Firm's annual capital plan.

The following table sets forth the Firm's repurchases of common equity, on a settlement-date basis, for the three and nine months ended September 30, 2019 and 2018.

	Three months ended September 30,		Nine months ended September 30,	
(in millions)	**2019**	2018	**2019**	2018
Total shares of common stock repurchased	**62.0**	39.3	**159.0**	126.0
Aggregate common stock repurchases	**$ 6,949**	$ 4,416	**$17,250**	$14,055

Refer to Part II, Item 2: Unregistered Sales of Equity Securities and Use of Proceeds and Part II, Item 5: Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities on pages 176-177 of this Form 10-Q and page 30 of JPMorgan Chase's 2018 Form 10-K, respectively, for additional information regarding repurchases of the Firm's equity securities.

Other capital requirements

TLAC

The Federal Reserve's TLAC rule requires the top-tier U.S. GSIB holding companies, including the Firm, to maintain minimum levels of external TLAC and eligible LTD effective January 1, 2019.

Refer to page 93 of JPMorgan Chase's 2018 Form 10-K for additional information.

The following table presents the eligible external TLAC and LTD amounts, as well as a representation of the amounts as a percentage of the Firm's total RWA and total leverage exposure.

September 30, 2019		
(in billions, except ratio)	Eligible external TLAC[(a)]	Eligible LTD
Total eligible TLAC & LTD	$ 387.8	$ 159.9
% of RWA	25.4%	10.5%
Minimum requirement	23.0	9.5
Surplus/(shortfall)	$ 36.4	$ 14.8
% of total leverage exposure	11.4%	4.7%
Minimum requirement	9.5	4.5
Surplus/(shortfall)	$ 64.3	$ 6.7

(a) As of September 30, 2019, total eligible external TLAC reflects the issuance of $2.25 billion of Series FF non-cumulative preferred stock, redemption of $880 million of Series W non-cumulative preferred stock, and redemption of $1.37 billion of Series I non-cumulative preferred stock called for partial redemption on September 26, 2019 and subsequently redeemed on October 30, 2019.

Refer to Part I, Item 1A: Risk Factors on pages 7-28 of JPMorgan Chase's 2018 Form 10-K for information on the financial consequences to holders of the Firm's debt and equity securities in a resolution scenario.

Broker-dealer regulatory capital

J.P. Morgan Securities

JPMorgan Chase's principal U.S. broker-dealer subsidiary is J.P. Morgan Securities. J.P. Morgan Securities is subject to Rule 15c3-1 under the Securities Exchange Act of 1934 (the "Net Capital Rule"). J.P. Morgan Securities is also registered as a futures commission merchant and subject to Rule 1.17 of the Commodity Futures Trading Commission ("CFTC").

Refer to Capital risk management on pages 85-94 of JPMorgan Chase's 2018 Form 10-K for a discussion on J.P. Morgan Securities' capital requirements.

The following table presents J.P. Morgan Securities' net capital:

September 30, 2019 (in millions)	Actual	Minimum
Net Capital	**$ 22,068**	**$ 3,746**

J.P. Morgan Securities plc

J.P. Morgan Securities plc is a wholly-owned subsidiary of JPMorgan Chase Bank, N.A. and has authority to engage in banking, investment banking and broker-dealer activities. J.P. Morgan Securities plc is jointly regulated by the U.K. Prudential Regulation Authority ("PRA") and the Financial Conduct Authority ("FCA").

Refer to Capital risk management on pages 85-94 of JPMorgan Chase's 2018 Form 10-K for a further discussion on J.P. Morgan Securities plc.

Effective January 1, 2019, the Bank of England requires, on a transitional basis, that U.K. banks, including U.K. regulated subsidiaries of overseas groups, maintain a minimum requirement for own funds and eligible liabilities ("MREL"). As of September 30, 2019, J.P. Morgan Securities plc was compliant with the requirements of the MREL rule. Refer to Supervision and Regulation on pages 1-6 of JPMorgan Chase's 2018 Form 10-K for additional information on MREL.

The following table presents J.P. Morgan Securities plc's capital metrics:

September 30, 2019 (in millions, except ratios)	Estimated	Minimum ratios
Total capital	**$ 55,614**	
CET1 ratio	**16.9%**	**4.5%**
Total capital ratio	**21.5%**	**8.0%**

Liquidity risk is the risk that the Firm will be unable to meet its contractual and contingent financial obligations as they arise or that it does not have the appropriate amount, composition and tenor of funding and liquidity to support its assets and liabilities. Refer to pages 95–100 of JPMorgan Chase's 2018 Form 10-K and the Firm's US LCR Disclosure reports, which are available on the Firm's website for a further discussion of the Firm's Liquidity Risk Management.

LCR and HQLA

The LCR rule requires the Firm to maintain an amount of unencumbered HQLA that is sufficient to meet its estimated total net cash outflows over a prospective 30 calendar-day period of significant stress. HQLA is the amount of liquid assets that qualify for inclusion in the LCR. HQLA primarily consist of unencumbered cash and certain high-quality liquid securities as defined in the LCR rule. The LCR is required to be a minimum of 100%.

Under the LCR rule, the amount of HQLA held by JPMorgan Chase Bank N.A. that is in excess of its standalone 100% minimum LCR requirement, and that is not transferable to non-bank affiliates, must be excluded from the Firm's reported HQLA.

The following table summarizes the Firm's average LCR for the three months ended September 30, 2019, June 30, 2019 and September 30, 2018 based on the Firm's interpretation of the finalized LCR framework.

Average amount (in millions)	Three months ended		
	September 30, 2019	June 30, 2019	September 30, 2018
HQLA			
Eligible cash[(a)]	**$ 199,757**	$ 219,838	$ 344,660
Eligible securities[(b)(c)]	**337,704**	317,439	190,349
Total HQLA[(d)]	**$ 537,461**	$ 537,277	$ 535,009
Net cash outflows	**$ 468,452**	$ 477,442	$ 466,803
LCR	**115%**	113%	115%
Net excess HQLA[(d)]	**$ 69,009**	$ 59,835	$ 68,206

(a) Represents cash on deposit at central banks, primarily the Federal Reserve Banks.
(b) Predominantly U.S. Treasuries, U.S. GSE and U.S. government agency MBS, and sovereign bonds net of applicable haircuts under the LCR rules.
(c) HQLA eligible securities may be reported in securities borrowed or purchased under resale agreements, trading assets, or investment securities on the Firm's Consolidated balance sheets.
(d) Excludes average excess HQLA at JPMorgan Chase Bank, N.A. that are not transferable to non-bank affiliates.

The Firm's average LCR increased during the three months ended September 30, 2019, compared with the three-month period ended June 30, 2019, primarily due to a decline in the net cash outflows from CIB activities.

The Firm's average LCR fluctuates from period to period, due to changes in its HQLA and estimated net cash outflows as a result of ongoing business activity.

Other liquidity sources

As of September 30, 2019, in addition to assets reported in the Firm's HQLA, the Firm had approximately $312 billion of unencumbered marketable securities, such as equity securities and fixed income debt securities, available to raise liquidity. This includes HQLA-eligible securities included as part of the excess liquidity at JPMorgan Chase Bank, N.A. that are not transferable to non-bank affiliates.

As of September 30, 2019, the Firm also had approximately $313 billion of available borrowing capacity at FHLBs, the discount window at the Federal Reserve Bank, and other central banks as a result of collateral pledged by the Firm to such banks. This borrowing capacity excludes the benefit of securities reported in the Firm's HQLA or other unencumbered securities that are currently pledged at the Federal Reserve Bank discount window. Although available, the Firm does not view this borrowing capacity at the Federal Reserve Bank discount window and the other central banks as a primary source of liquidity.

Funding

Sources of funds

Management believes that the Firm's unsecured and secured funding capacity is sufficient to meet its on- and off-balance sheet obligations.

The Firm funds its global balance sheet through diverse sources of funding including stable deposits as well as secured and unsecured funding in the capital markets. The Firm's loan portfolio is funded with a portion of the Firm's deposits, through securitizations and, with respect to a portion of the Firm's real estate-related loans, with secured borrowings from the FHLBs. Deposits in excess of the amount utilized to fund loans are primarily invested by Treasury and CIO in the Firm's investment securities portfolio or deployed in cash or other short-term liquid investments based on their interest rate and liquidity risk characteristics. Securities borrowed or purchased under resale agreements and trading assets-debt and equity instruments are primarily funded by the Firm's securities loaned or sold under agreements to repurchase, trading liabilities-debt and equity instruments, and a portion of the Firm's long-term debt and stockholders' equity. In addition to funding securities borrowed or purchased under resale agreements and trading assets-debt and equity instruments, proceeds from the Firm's debt and equity issuances are used to fund certain loans and other financial and non-financial assets, or may be invested in the Firm's investment securities portfolio. Refer to the discussion below for additional information relating to Deposits, Short-term funding, and Long-term funding and issuance.

Deposits

The table below summarizes, by line of business, the deposit balances as of September 30, 2019, and December 31, 2018, and the average deposit balances for the three and nine months ended September 30, 2019 and 2018, respectively.

Deposits			Three months ended September 30,		Nine months ended September 30,	
			Average		Average	
(in millions)	**September 30, 2019**	December 31, 2018	**2019**	2018	**2019**	2018
Consumer & Community Banking	**$ 701,170**	$ 678,854	**$ 693,980**	$ 674,211	**$ 688,676**	$ 669,244
Corporate & Investment Bank	**510,403**	482,084	**524,521**	476,995	**509,775**	472,879
Commercial Banking	**174,903**	170,859	**172,653**	168,102	**169,361**	171,403
Asset & Wealth Management	**138,439**	138,546	**138,822**	133,021	**139,127**	138,885
Corporate	**346**	323	**904**	533	**887**	736
Total Firm	**$ 1,525,261**	$ 1,470,666	**$ 1,530,880**	$ 1,452,862	**$ 1,507,826**	$ 1,453,147

Deposits provide a stable source of funding and reduce the Firm's reliance on the wholesale funding markets. A significant portion of the Firm's deposits are consumer and wholesale operating deposits, which are both considered to be stable sources of liquidity. Wholesale operating deposits are considered to be stable sources of liquidity because they are generated from customers that maintain operating service relationships with the Firm.

The table below shows the loan and deposit balances, the loans-to-deposits ratios, and deposits as a percentage of total liabilities, as of September 30, 2019 and December 31, 2018.

(in billions except ratios)	**September 30, 2019**	December 31, 2018
Deposits	**$ 1,525.3**	$ 1,470.7
Deposits as a % of total liabilities	**61%**	62%
Loans	**$ 945.2**	$ 984.6
Loans-to-deposits ratio	**62%**	67%

The Firm believes that average deposit balances are generally more representative of deposit trends than period-end deposit balances.

Average deposits increased for the three months ended September 30, 2019.

- The increase in CIB reflects an increase in operating deposits predominantly in Treasury Services driven by growth in client activity, and an increase in the net issuances of structured notes in Markets. The increase in CCB was driven by growth in new accounts. The increase in AWM was driven by growth in interest-bearing deposits on new client activity. The increase in CB was primarily driven by growth from existing clients.

Average deposits increased for the nine months ended September 30, 2019 in CIB and CCB, partially offset by a decline in CB. Balances in AWM were relatively flat.

- The increase in CIB reflects an increase in operating deposits predominantly in Treasury Services driven by growth in client activity, and an increase in the net issuances of structured notes in Markets. The increase in CCB was driven by growth in new accounts.
- The decrease in CB was primarily driven by lower non operating deposits.
- AWM balances were relatively flat with growth in interest-bearing deposits offset by migration predominantly into the Firm's investment-related products.

Refer to the discussion of the Firm's Business Segment Results and the Consolidated Balance Sheets Analysis on pages 21–43 and pages 15-16, respectively, for further information on deposit and liability balance trends.

The following table summarizes short-term and long-term funding, excluding deposits, as of September 30, 2019, and December 31, 2018, and average balances for the three and nine months ended September 30, 2019 and 2018, respectively. Refer to the Consolidated Balance Sheets Analysis on pages 15–17 and Note 10 for additional information.

Sources of funds (excluding deposits)			Three months ended September 30,		Nine months ended September 30,	
			Average		Average	
(in millions)	September 30, 2019	December 31, 2018	2019	2018	2019	2018
Commercial paper	$ 19,620	$ 30,059	$ 19,607	$ 28,702	$ 24,756	$ 27,289
Other borrowed funds	8,826	8,789	10,537	11,172	10,869	11,716
Total short-term unsecured funding	$ 28,446	$ 38,848	$ 30,144	$ 39,874	$ 35,625	$ 39,005
Securities sold under agreements to repurchase[a]	$ 235,968	$ 171,975	$ 229,581	$ 174,436	$ 215,148	$ 178,929
Securities loaned[a]	9,739	9,481	8,505	9,131	9,117	10,900
Other borrowed funds[b]	20,447	30,428	21,758	21,169	28,343	21,336
Obligations of Firm-administered multi-seller conduits[c]	$ 10,514	$ 4,843	$ 12,167	$ 3,102	$ 10,987	$ 3,070
Total short-term secured funding	$ 276,668	$ 216,727	$ 272,011	$ 207,838	$ 263,595	$ 214,235
Senior notes	$ 173,550	$ 162,733	$ 172,059	$ 154,820	$ 167,495	$ 152,046
Trust preferred securities	–	–	–	517	–	629
Subordinated debt	18,043	16,743	17,797	16,079	17,196	16,106
Structured notes[d]	70,687	53,090	69,144	50,905	62,984	48,874
Total long-term unsecured funding	$ 262,280	$ 232,566	$ 259,000	$ 222,321	$ 247,675	$ 217,655
Credit card securitization[c]	$ 6,457	$ 13,404	$ 7,394	$ 15,052	$ 10,802	$ 16,620
FHLB advances	29,642	44,455	29,646	48,645	35,998	54,378
Other long-term secured funding[e]	4,550	5,010	4,558	5,013	4,708	4,832
Total long-term secured funding	$ 40,649	$ 62,869	$ 41,598	$ 68,710	$ 51,508	$ 75,830
Preferred stock[f]	$ 28,363	$ 26,068	$ 28,241	$ 26,252	$ 27,457	$ 26,130
Common stockholders' equity[f]	$ 235,985	$ 230,447	$ 235,613	$ 230,439	$ 232,917	$ 228,995

(a) Primarily consists of short-term securities loaned or sold under agreements to repurchase.
(b) Includes FHLB advances with original maturities of less than one year of $2.6 billion and $11.4 billion as of September 30, 2019 and December 31, 2018, respectively.
(c) Included in beneficial interests issued by consolidated variable interest entities on the Firm's Consolidated balance sheets.
(d) Includes certain TLAC-eligible long-term unsecured debt issued by the Parent Company.
(e) Includes long-term structured notes which are secured.
(f) Refer to Capital Risk Management on pages 45–49, Consolidated statements of changes in stockholders' equity on page 83 of this Form 10-Q and Note 20 and Note 21 of JPMorgan Chase's 2018 Form 10-K for additional information on preferred stock and common stockholders' equity.

Short-term funding

The Firm's sources of short-term secured funding primarily consist of securities loaned or sold under agreements to repurchase. These instruments are secured predominantly by high-quality securities collateral, including government-issued debt, U.S. GSE and government agency MBS, and constitute a significant portion of the federal funds purchased and securities loaned or sold under repurchase agreements on the Consolidated balance sheets. The increase at September 30, 2019, from December 31, 2018, was driven by CIB and includes the Firm's participation in the Federal Reserve's open market operations, as well as higher secured financing of trading assets-debt instruments and client-driven activities.

The balances associated with securities loaned or sold under agreements to repurchase fluctuate over time due to customers' investment and financing activities, the Firm's demand for financing, the ongoing management of the mix of the Firm's liabilities, including its secured and unsecured financing (for both the investment securities and market-making portfolios), and other market and portfolio factors.

The Firm's sources of short-term unsecured funding primarily consist of issuance of wholesale commercial paper. The decrease in commercial paper at September 30, 2019, from December 31, 2018, was due to lower net issuance primarily for short-term liquidity management.

Long-term funding and issuance

Long-term funding provides additional sources of stable funding and liquidity for the Firm. The Firm's long-term funding plan is driven primarily by expected client activity, liquidity considerations, and regulatory requirements, including TLAC. Long-term funding objectives include maintaining diversification, maximizing market access and optimizing funding costs. The Firm evaluates various funding markets, tenors and currencies in creating its optimal long-term funding plan.

The significant majority of the Firm's long-term unsecured funding is issued by the Parent Company to provide maximum flexibility in support of both bank and nonbank subsidiary funding needs. The Parent Company advances substantially all net funding proceeds to its subsidiary, the Intermediate Holding Company ("IHC"). The IHC does not issue debt to external counterparties. The following table summarizes long-term unsecured issuance and maturities or redemptions for the three and nine months ended September 30, 2019 and 2018. Refer to Liquidity Risk Management on pages 95-100 and Note 19 of JPMorgan Chase's 2018 Form 10-K for additional information on the IHC and long-term debt.

Long-term unsecured funding

	Three months ended September 30,		Nine months ended September 30,		Three months ended September 30,		Nine months ended September 30,	
	2019	2018	**2019**	2018	**2019**	2018	**2019**	2018
(Notional in millions)	Parent Company				Subsidiaries			
Issuance								
Senior notes issued in the U.S. market	**$ 5,000**	$ 6,000	**$ 13,250**	$ 17,000	**$ –**	$ 1,250	**$ 1,750**	$ 8,761
Senior notes issued in non-U.S. markets	**1,672**	–	**3,920**	1,175	**–**	–	**–**	–
Total senior notes	**6,672**	6,000	**17,170**	18,175	**–**	1,250	**1,750**	8,761
Structured notes[(a)]	**780**	387	**2,596**	2,047	**8,511**	5,934	**23,643**	20,159
Total long-term unsecured funding – issuance	**$ 7,452**	$ 6,387	**$ 19,766**	$ 20,222	**$ 8,511**	$ 7,184	**$ 25,393**	$ 28,920
Maturities/redemptions								
Senior notes	**$ 2,700**	$ 646	**$ 10,607**	$ 18,633	**$ 2,751**	$ 1,503	**$ 4,567**	$ 4,466
Subordinated debt	**37**	15	**183**	15	**–**	–	**–**	–
Structured notes	**477**	582	**1,436**	2,465	**4,540**	3,474	**12,700**	12,104
Total long-term unsecured funding – maturities/ redemptions	**$ 3,214**	$ 1,243	**$ 12,226**	$ 21,113	**$ 7,291**	$ 4,977	**$ 17,267**	$ 16,570

(a) Includes certain TLAC-eligible long-term unsecured debt issued by the Parent Company.

The Firm raises secured long-term funding through securitization of consumer credit card loans and advances from the FHLBs. The following table summarizes the securitization issuance and FHLB advances and their respective maturities or redemptions for the three and nine months ended September 30, 2019 and 2018, respectively.

Long-term secured funding

	Three months ended September 30,				Nine months ended September 30,			
	Issuance		Maturities/Redemptions		Issuance		Maturities/Redemptions	
(in millions)	**2019**	2018	**2019**	2018	**2019**	2018	**2019**	2018
Credit card securitization	**$ –**	$ –	**$ 2,850**	$ 2,375	**$ –**	$ 1,396	**$ 6,975**	$ 8,500
FHLB advances	**–**	–	**5**	10,704	**–**	4,000	**14,810**	23,157
Other long-term secured funding[(a)]	**62**	117	**180**	139	**115**	312	**633**	161
Total long-term secured funding	**$ 62**	$ 117	**$ 3,035**	$ 13,218	**$ 115**	$ 5,708	**$ 22,418**	$ 31,818

(a) Includes long-term structured notes which are secured.

The Firm's wholesale businesses also securitize loans for client-driven transactions; those client-driven loan securitizations are not considered to be a source of funding for the Firm and are not included in the table above. Refer to Note 14 of JPMorgan Chase's 2018 Form 10-K for further description of the client-driven loan securitizations.

Credit ratings

The cost and availability of financing are influenced by credit ratings. Reductions in these ratings could have an adverse effect on the Firm's access to liquidity sources, increase the cost of funds, trigger additional collateral or funding requirements and decrease the number of investors and counterparties willing to lend to the Firm. The nature and magnitude of the impact of ratings downgrades depends on numerous contractual and behavioral factors, which the Firm believes are incorporated in its liquidity risk and stress testing metrics. The Firm believes that it maintains sufficient liquidity to withstand a potential decrease in funding capacity due to ratings downgrades.

Additionally, the Firm's funding requirements for VIEs and other third-party commitments may be adversely affected by a decline in credit ratings. Refer to SPEs on page 18, and liquidity risk and credit-related contingent features in Note 4 for additional information on the impact of a credit ratings downgrade on the funding requirements for VIEs, and on derivatives and collateral agreements.

The credit ratings of the Parent Company and the Firm's principal bank and non-bank subsidiaries as of September 30, 2019, were as follows.

	JPMorgan Chase & Co.			JPMorgan Chase Bank, N.A.[a]			J.P. Morgan Securities LLC J.P. Morgan Securities plc		
September 30, 2019	Long-term issuer	Short-term issuer	Outlook	Long-term issuer	Short-term issuer	Outlook	Long-term issuer	Short-term issuer	Outlook
Moody's Investors Service	A2	P-1	Stable	Aa2	P-1	Stable	Aa3	P-1	Stable
Standard & Poor's	A-	A-2	Stable	A+	A-1	Stable	A+	A-1	Stable
Fitch Ratings	AA-	F1+	Stable	AA	F1+	Stable	AA	F1+	Stable

(a) On May 18, 2019, the Firm merged Chase Bank USA, N.A. with and into JPMorgan Chase Bank, N.A., with JPMorgan Chase Bank, N.A. as the surviving bank. The credit rating for JPMorgan Chase Bank, N.A. reflects the credit rating of the merged entity.

Refer to page 100 of JPMorgan Chase's 2018 Form 10-K for a discussion of the factors that could affect credit ratings of the Parent Company and the Firm's principal bank and non-bank subsidiaries.

CREDIT AND INVESTMENT RISK MANAGEMENT

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. Refer to pages 55-68 for a further discussion of Credit Risk. Refer to page 69 for a further discussion of Investment Portfolio Risk. Refer to Credit and Investment Risk Management on pages 102-123 of JPMorgan Chase's 2018 Form 10-K for a further discussion of the Firm's Credit and Investment Risk Management framework and organization, and the identification, monitoring and management.

CREDIT PORTFOLIO

Credit risk is the risk associated with the default or change in credit profile of a client, counterparty or customer.

In the following tables, reported loans include loans retained (i.e., held-for-investment); loans held-for-sale; and certain loans accounted for at fair value. The following tables do not include loans which the Firm accounts for at fair value and classifies as trading assets; refer to Notes 2 and 3 for further information regarding these loans. Refer to Notes 11, 22, and 4 for additional information on the Firm's loans, lending-related commitments and derivative receivables, including the Firm's accounting policies.

Refer to Wholesale credit exposure – industry exposures on pages 62–64 for further information regarding the credit risk inherent in the Firm's cash placed with banks; refer to Note 9 of this Form 10-Q and Note 10 of JPMorgan Chase's 2018 Form 10-K for information regarding the credit risk inherent in the Firm's investment securities portfolio; and refer to Note 10 of this Form 10-Q and Note 11 of JPMorgan Chase's 2018 Form 10-K for information regarding the credit risk inherent in the securities financing portfolio.

Refer to Consumer Credit Portfolio on pages 106–111 of JPMorgan Chase's 2018 Form 10-K and Note 11 of this Form 10-Q for a further discussion of the consumer credit environment and consumer loans. Refer to Wholesale Credit Portfolio on pages 112–119 of JPMorgan Chase's 2018 Form 10-K and Note 11 of this Form 10-Q for a further discussion of the wholesale credit environment and wholesale loans.

Total credit portfolio

	Credit exposure		Nonperforming[d][e]	
(in millions)	**Sep 30, 2019**	Dec 31, 2018	**Sep 30, 2019**	Dec 31, 2018
Loans retained	**$ 928,887**	$ 969,415	**$ 4,687**	$ 4,611
Loans held-for-sale	**10,571**	11,988	**88**	–
Loans at fair value	**5,760**	3,151	**176**	220
Total loans–reported	**945,218**	984,554	**4,951**	4,831
Derivative receivables	**55,577**	54,213	**26**	60
Receivables from customers and other[a]	**32,236**	30,217	**–**	–
Total credit-related assets	**1,033,031**	1,068,984	**4,977**	4,891
Assets acquired in loan satisfactions				
Real estate owned	**NA**	NA	**340**	269
Other	**NA**	NA	**26**	30
Total assets acquired in loan satisfactions	**NA**	NA	**366**	299
Lending-related commitments	**1,095,090**	1,039,258	**446**	469
Total credit portfolio	**$ 2,128,121**	$ 2,108,242	**$ 5,789**	$ 5,659
Credit derivatives used in credit portfolio management activities[b]	**$ (15,031)**	$ (12,682)	**$ –**	$ –
Liquid securities and other cash collateral held against derivatives[c]	**(15,482)**	(15,322)	**NA**	NA

(in millions, except ratios)	Three months ended September 30,		Nine months ended September 30,	
	2019	2018	**2019**	2018
Net charge-offs	**$ 1,371**	$ 1,033	**$ 4,135**	$ 3,620
Average retained loans				
Loans	**932,493**	942,583	**944,666**	931,766
Loans – reported, excluding residential real estate PCI loans	**910,753**	916,205	**921,978**	903,377
Net charge-off rates				
Loans	**0.58%**	0.43%	**0.59%**	0.52%
Loans – excluding PCI	**0.60**	0.45	**0.60**	0.54

(a) Receivables from customers and other primarily represents prime brokerage-related held-for-investment customer receivables.
(b) Represents the net notional amount of protection purchased and sold through credit derivatives used to manage both performing and nonperforming wholesale credit exposures; these derivatives do not qualify for hedge accounting under U.S. GAAP. Refer to Credit derivatives on page 66 and Note 4 for additional information.
(c) Includes collateral related to derivative instruments where an appropriate legal opinion has not been either sought or obtained.
(d) Excludes PCI loans. The Firm is recognizing interest income on each pool of PCI loans as each of the pools is performing.
(e) At September 30, 2019, and December 31, 2018, nonperforming assets excluded mortgage loans 90 or more days past due and insured by U.S. government agencies of $1.6 billion and $2.6 billion, respectively, and real estate owned ("REO") insured by U.S. government agencies of $50 million and $75 million, respectively. These amounts have been excluded based upon the government guarantee. In addition, the Firm's policy is generally to exempt credit card loans from being placed on nonaccrual status as permitted by regulatory guidance issued by the Federal Financial Institutions Examination Council ("FFIEC").

CONSUMER CREDIT PORTFOLIO

The Firm's retained consumer portfolio consists primarily of residential real estate loans, credit card loans, auto loans, and business banking loans, as well as associated lending-related commitments. The Firm's focus is on serving primarily the prime segment of the consumer credit market. Refer to Note 11 of this Form 10-Q and Consumer Credit Portfolio on pages 106–111 and Note 12 of JPMorgan Chase's 2018 Form 10-K for further information on consumer loans. Refer to Note 22 of this Form 10-Q and Note 27 of JPMorgan Chase's 2018 Form 10-K for further information on lending-related commitments.

The following table presents consumer credit-related information with respect to the credit portfolio held by CCB, scored prime mortgage and scored home equity loans held by AWM, and prime mortgage loans held by Corporate. Refer to Note 12 of JPMorgan Chase's 2018 Form 10-K for further information about the Firm's nonaccrual and charge-off accounting policies.

Consumer credit portfolio

					Three months ended September 30,				Nine months ended September 30,			
	Credit exposure		Nonaccrual loans[f][g]		Net charge-offs/ (recoveries)[h]		Net charge-off/ (recovery) rate[h][i]		Net charge-offs/ (recoveries)[h]		Net charge-off/ (recovery) rate[h][i]	
(in millions, except ratios)	**Sep 30, 2019**	Dec 31, 2018	**Sep 30, 2019**	Dec 31, 2018	**2019**	2018	**2019**	2018	**2019**	2018	**2019**	2018
Consumer, excluding credit card												
Loans, excluding PCI loans and loans held-for-sale												
Residential mortgage	**$ 197,456**	$ 231,078	**$ 1,629**	$ 1,765	**$ (15)**	$ (105)	**(0.03)%**	(0.18)%	**$ (31)**	$ (256)	**(0.02)%**	(0.15)%
Home equity	**24,954**	28,340	**1,208**	1,323	**(25)**	(12)	**(0.39)**	(0.16)	**(40)**	(2)	**(0.20)**	(0.01)
Auto[a][b]	**61,410**	63,573	**112**	128	**49**	56	**0.32**	0.35	**149**	182	**0.32**	0.37
Consumer & Business Banking[b][c]	**26,699**	26,612	**268**	245	**79**	68	**1.18**	1.02	**204**	171	**1.03**	0.88
Total loans, excluding PCI loans and loans held-for-sale	**310,519**	349,603	**3,217**	3,461	**88**	7	**0.11**	0.01	**282**	95	**0.11**	0.04
Loans – PCI												
Home equity	**7,753**	8,963	**NA**	NA	**NA**	NA	**NA**	NA	**NA**	NA	**NA**	NA
Prime mortgage	**4,164**	4,690	**NA**	NA	**NA**	NA	**NA**	NA	**NA**	NA	**NA**	NA
Subprime mortgage	**1,797**	1,945	**NA**	NA	**NA**	NA	**NA**	NA	**NA**	NA	**NA**	NA
Option ARMs	**7,576**	8,436	**NA**	NA	**NA**	NA	**NA**	NA	**NA**	NA	**NA**	NA
Total loans – PCI	**21,290**	24,034	**NA**	NA	**NA**	NA	**NA**	NA	**NA**	NA	**NA**	NA
Total loans – retained	**331,809**	373,637	**3,217**	3,461	**88**	7	**0.10**	0.01	**282**	95	**0.11**	0.03
Loans held-for-sale	**4,821**	95	**2**	–	**NA**	NA	**NA**	NA	**NA**	NA	**NA**	NA
Total consumer, excluding credit card loans	**336,630**	373,732	**3,219**	3,461	**88**	7	**0.10**	0.01	**282**	95	**0.11**	0.03
Lending-related commitments[d]	**53,591**	46,066										
Receivables from customers	**18**	154										
Total consumer exposure, excluding credit card	**390,239**	419,952										
Credit card												
Loans retained[e]	**159,571**	156,616	**–**	–	**1,175**	1,073	**2.95**	2.91	**3,617**	3,407	**3.13**	3.16
Loans held-for-sale	**–**	16	**–**	–	**NA**	NA	**NA**	NA	**NA**	NA	**NA**	NA
Total credit card loans	**159,571**	156,632	**–**	–	**1,175**	1,073	**2.95**	2.91	**3,617**	3,407	**3.13**	3.16
Lending-related commitments[d]	**645,880**	605,379										
Total credit card exposure	**805,451**	762,011										
Total consumer credit portfolio	**$1,195,690**	$1,181,963	**$ 3,219**	$ 3,461	**$ 1,263**	$ 1,080	**1.00 %**	0.82 %	**$3,899**	$3,502	**1.02 %**	0.90 %
Memo: Total consumer credit portfolio, excluding PCI	**$1,174,400**	$1,157,929	**$ 3,219**	$ 3,461	**$ 1,263**	$ 1,080	**1.05 %**	0.86 %	**$3,899**	$3,502	**1.07 %**	0.96 %

(a) At September 30, 2019, and December 31, 2018, excluded operating lease assets of $22.1 billion and $20.5 billion, respectively. These operating lease assets are included in other assets on the Firm's Consolidated balance sheets. Refer to Note 16 for further information.

(b) Includes certain business banking and auto dealer risk-rated loans that apply the wholesale methodology for determining the allowance for loan losses; these loans are managed by CCB, and therefore, for consistency in presentation, are included within the consumer portfolio.

(c) Predominantly includes Business Banking loans.

(d) Credit card and home equity lending-related commitments represent the total available lines of credit for these products. The Firm has not experienced, and does not anticipate, that all available lines of credit would be used at the same time. For credit card commitments, and if certain conditions are met, home equity commitments, the Firm can reduce or cancel these lines of credit by providing the borrower notice or, in some cases as permitted by law, without notice. Refer to Note 22 for further information.

(e) Includes billed interest and fees net of an allowance for uncollectible interest and fees.

(f) At September 30, 2019 and December 31, 2018, nonaccrual loans excluded mortgage loans 90 or more days past due and insured by U.S. government agencies of $1.6 billion and $2.6 billion, respectively. These amounts have been excluded from nonaccrual loans based upon the government guarantee. In addition, the Firm's policy is generally to exempt credit card loans from being placed on nonaccrual status, as permitted by regulatory guidance issued by the FFIEC.

(g) Excludes PCI loans. The Firm is recognizing interest income on each pool of PCI loans as each of the pools is performing.

(h) Net charge-offs/(recoveries) and the net charge-off/(recovery) rates excluded write-offs in the PCI portfolio of $43 million and $58 million for the three months ended September 30, 2019 and 2018, respectively, and $132 million and $151 million for the nine months ended September 30, 2019 and 2018, respectively. These write-offs decreased the allowance for loan losses for PCI loans. Refer to Allowance for Credit Losses on pages 67–68 for further information.

(i) Average consumer loans held-for-sale were $5.5 billion and $196 million for the three months ended September 30, 2019 and 2018, respectively, and $2.6 billion and $240 million for the nine months ended September 30, 2019 and 2018, respectively. These amounts were excluded when calculating net charge-off/(recovery) rates.

Consumer, excluding credit card

Portfolio analysis

Loan balances decreased from December 31, 2018 due to lower residential real estate loans, predominantly driven by loan sales. The credit performance of the portfolio continues to benefit from a strong labor market and improvement in home prices.

The following discussions provide information concerning individual loan products, excluding PCI loans which are addressed separately. Refer to Note 11 of this Form 10-Q for further information about this portfolio, including information about delinquencies, loan modifications and other credit quality indicators.

Residential mortgage: The residential mortgage portfolio, including loans held-for-sale, predominantly consists of prime mortgage loans. The portfolio decreased from December 31, 2018 driven by loan sales in Home Lending as well as paydowns, largely offset by originations of prime mortgage loans that have been retained on the balance sheet. Net recoveries for the three and nine months ended September 30, 2019 were lower when compared with the same periods in the prior year as the prior year benefited from larger recoveries on loan sales.

At September 30, 2019, and December 31, 2018, the Firm's residential mortgage portfolio included $21.8 billion and $21.6 billion, respectively, of interest-only loans. These loans have an interest-only payment period generally followed by an adjustable-rate or fixed-rate fully amortizing payment period to maturity and are typically originated as higher-balance loans to higher-income borrowers, predominantly in AWM. Performance of this portfolio for the three and nine months ended September 30, 2019 was in line with the performance of the broader residential mortgage portfolio for the same period.

The following table provides a summary of the Firm's residential mortgage portfolio insured and/or guaranteed by U.S. government agencies, including loans held-for-sale. The Firm monitors its exposure to certain potential unrecoverable claim payments related to government-insured loans and considers this exposure in estimating the allowance for loan losses.

(in millions)	September 30, 2019	December 31, 2018
Current	**$ 2,100**	$ 2,884
30-89 days past due	**1,054**	1,528
90 or more days past due	**1,602**	2,600
Total government guaranteed loans	**$ 4,756**	$ 7,012

Home equity: The home equity portfolio declined from December 31, 2018 primarily reflecting loan paydowns.

At September 30, 2019, approximately 90% of the Firm's home equity portfolio consisted of home equity lines of credit ("HELOCs") and the remainder consisted of home equity loans ("HELOANs"). The carrying value of HELOCs outstanding was $23 billion at September 30, 2019. This amount included $10 billion of HELOCs that have recast from interest-only to fully amortizing payments or have been modified and $4 billion of interest-only balloon HELOCs, which primarily mature after 2030. The Firm manages the risk of HELOCs during their revolving period by closing or reducing the undrawn line to the extent permitted by law when borrowers are exhibiting a material deterioration in their credit risk profile.

Refer to Note 11 of this Form 10-Q and Consumer Credit Portfolio on pages 106–111 of JPMorgan Chase's 2018 Form 10-K for further information on the Firm's home equity portfolio.

Auto: The auto loan portfolio predominantly consists of prime-quality loans. The portfolio declined when compared with December 31, 2018, as paydowns and charge-offs or liquidation of delinquent loans were predominantly offset by new originations.

Consumer & Business Banking: Consumer & Business Banking loans were flat when compared with December 31, 2018 as loan originations were offset by paydowns and charge-offs of delinquent loans. Net charge-offs for the three and nine months ended September 30, 2019 increased when compared with the same period in the prior year due primarily to higher deposit overdraft losses.

Purchased credit-impaired loans: PCI loans represent certain loans that were acquired and deemed to be credit-impaired on the acquisition date. PCI loans decreased from December 31, 2018 due to portfolio run off. As of September 30, 2019, approximately 9% of the option ARM PCI loans were delinquent and approximately 71% of the portfolio had been modified into fixed-rate, fully amortizing loans. The borrowers for substantially all of the remaining option ARM loans are making amortizing payments, although such payments are not necessarily fully amortizing. This latter group of loans is subject to the risk of payment shock due to future payment recast. Default rates generally increase on option ARM loans when payment recast results in a payment increase. The expected increase in default rates is considered in the Firm's quarterly impairment assessment.

The following table provides a summary of lifetime principal loss estimates included in either the nonaccretable difference or the allowance for loan losses.

Summary of PCI loans lifetime principal loss estimates

	Lifetime loss estimates[a]		Life-to-date liquidation losses[b]	
(in billions)	**Sep 30, 2019**	Dec 31, 2018	**Sep 30, 2019**	Dec 31, 2018
Home equity	**$ 13.9**	$ 14.1	**$ 13.0**	$ 13.0
Prime mortgage	**4.1**	4.1	**3.9**	3.9
Subprime mortgage	**3.3**	3.3	**3.2**	3.2
Option ARMs	**10.3**	10.3	**10.0**	9.9
Total	**$ 31.6**	$ 31.8	**$ 30.1**	$ 30.0

(a) Includes the original nonaccretable difference established in purchase accounting of $30.5 billion for principal losses plus additional principal losses recognized subsequent to acquisition through the provision and allowance for loan losses. The remaining nonaccretable difference for principal losses was $476 million and $512 million at September 30, 2019, and December 31, 2018, respectively.
(b) Represents both realization of loss upon loan resolution and any principal forgiven upon modification.

Geographic composition of residential real estate loans

Refer to Note 11 for information on the geographic composition of the Firm's residential real estate loans.

Current estimated loan-to-value ratio of residential real estate loans

Average current estimated loan-to-value ("LTV") ratios have declined consistent with recent improvements in home prices, customer paydowns, and charge-offs or liquidations of higher LTV loans. Refer to Note 11 for information on current estimated LTVs of the Firm's residential real estate loans.

Loan modification activities for residential real estate loans

The performance of modified loans generally differs by product type due to differences in both the credit quality and the types of modifications provided. Performance metrics for modifications to the residential real estate portfolios as measured through redefault rates, were not materially different from December 31, 2018. Refer to Consumer Credit Portfolio on pages 106–111 of JPMorgan Chase's 2018 Form 10-K for further information on the Firm's redefault rates.

Certain modified loans have interest rate reset provisions ("step-rate modifications") where the interest rates on these loans generally began to increase commencing in 2014 by 1% per year, and will continue to do so, until the rate reaches a specified cap. The cap on these loans is typically at a prevailing market interest rate for a fixed-rate mortgage loan as of the modification date. At September 30, 2019, the carrying value of non-PCI loans and the unpaid principal balance of PCI loans modified in step-rate modifications, which have not yet met their specified caps, were $1.3 billion and $2.4 billion, respectively. The Firm continues to monitor this risk exposure and the impact of these potential interest rate increases is considered in the Firm's allowance for loan losses.

The following table presents information as of September 30, 2019, and December 31, 2018, relating to modified retained residential real estate loans for which concessions have been granted to borrowers experiencing financial difficulty. Refer to Note 11 for further information on modifications for the three and nine months ended September 30, 2019 and 2018.

Modified residential real estate loans

	September 30, 2019		December 31, 2018	
(in millions)	Retained loans	Non-accrual retained loans[d]	Retained loans	Non-accrual retained loans[d]
Modified residential real estate loans, excluding PCI loans[a][b]				
Residential mortgage	**$ 4,118**	**$ 1,376**	$ 4,565	$ 1,459
Home equity	**1,961**	**981**	2,012	955
Total modified residential real estate loans, excluding PCI loans	**$ 6,079**	**$ 2,357**	$ 6,577	$ 2,414
Modified PCI loans[c]				
Home equity	**$ 2,003**	**NA**	$ 2,086	NA
Prime mortgage	**2,929**	**NA**	3,179	NA
Subprime mortgage	**1,919**	**NA**	2,041	NA
Option ARMs	**5,879**	**NA**	6,410	NA
Total modified PCI loans	**$ 12,730**	**NA**	$ 13,716	NA

(a) Amounts represent the carrying value of modified residential real estate loans.
(b) At September 30, 2019, and December 31, 2018, $16 million and $4.1 billion, respectively, of loans modified subsequent to repurchase from Ginnie Mae in accordance with the standards of the appropriate government agency (i.e., Federal Housing Administration ("FHA"), U.S. Department of Veterans Affairs ("VA"), Rural Housing Service of the U.S. Department of Agriculture ("RHS")) are not included in the table above. When such loans perform subsequent to modification in accordance with Ginnie Mae guidelines, they are generally sold back into Ginnie Mae loan pools. Modified loans that do not re-perform become subject to foreclosure. Refer to Note 13 for additional information about sales of loans in securitization transactions with Ginnie Mae.
(c) Amounts represent the unpaid principal balance of modified PCI loans.
(d) At September 30, 2019, and December 31, 2018, nonaccrual loans included $1.9 billion and $2.0 billion, respectively, of troubled debt restructurings ("TDRs") for which the borrowers were less than 90 days past due. Refer to Note 11 for additional information about loans modified in a TDR that are on nonaccrual status.

Nonperforming assets

The following table presents information as of September 30, 2019, and December 31, 2018, about consumer, excluding credit card, nonperforming assets.

Nonperforming assets[a]

(in millions)	September 30, 2019	December 31, 2018
Nonaccrual loans[b]		
Residential real estate	**$ 2,839**	$ 3,088
Other consumer	**380**	373
Total nonaccrual loans	**3,219**	3,461
Assets acquired in loan satisfactions		
Real estate owned[c]	**209**	196
Other	**26**	30
Total assets acquired in loan satisfactions	**235**	226
Total nonperforming assets	**$ 3,454**	$ 3,687

(a) At September 30, 2019, and December 31, 2018, nonperforming assets excluded mortgage loans 90 or more days past due and insured by U.S. government agencies of $1.6 billion and $2.6 billion, respectively, and REO insured by U.S. government agencies of $50 million and $75 million, respectively. These amounts have been excluded based upon the government guarantee.

(b) Excludes PCI loans, which are accounted for on a pool basis. Since each pool is accounted for as a single asset with a single composite interest rate and an aggregate expectation of cash flows, the past-due status of the pools, or that of individual loans within the pools, is not meaningful. The Firm is recognizing interest income on each pool of loans as each of the pools is performing.

(c) The prior period amount has been revised to conform with the current period presentation.

Nonaccrual loans in the residential real estate portfolio at September 30, 2019 decreased to $2.8 billion from $3.1 billion at December 31, 2018, of which 20% and 24% were greater than 150 days past due, respectively. In the aggregate, the unpaid principal balance of residential real estate loans greater than 150 days past due was charged down by approximately 31% and 32% to the estimated net realizable value of the collateral at September 30, 2019, and December 31, 2018, respectively.

Nonaccrual loans: The following table presents changes in consumer, excluding credit card, nonaccrual loans for the nine months ended September 30, 2019 and 2018.

Nonaccrual loan activity

Nine months ended September 30, (in millions)	2019	2018
Beginning balance	**$ 3,461**	$ 4,209
Additions	**1,674**	2,174
Reductions:		
Principal payments and other[a]	**766**	1,119
Charge-offs	**301**	354
Returned to performing status	**657**	1,057
Foreclosures and other liquidations	**192**	217
Total reductions	**1,916**	2,747
Net changes	**(242)**	(573)
Ending balance	**$ 3,219**	$ 3,636

(a) Other reductions includes loan sales.

Active and suspended foreclosure: Refer to Note 11 for information on loans that were in the process of active or suspended foreclosure.

Credit card

Total credit card loans increased from December 31, 2018 reflecting increased sales volumes from existing customers and new account growth, partially offset by the impact of seasonality. The September 30, 2019 30+ and 90+ day delinquency rates of 1.84% and 0.90%, respectively, were relatively flat compared to the December 31, 2018 30+ and 90+ day delinquency rates of 1.83% and 0.92%, respectively. Net charge-offs increased for the three and nine months ended September 30, 2019 when compared with the same period in the prior year due to loan growth, in line with expectations.

Consistent with the Firm's policy, all credit card loans typically remain on accrual status until charged off. However, the Firm establishes an allowance, which is offset against loans and reduces interest income, for the estimated uncollectible portion of accrued and billed interest and fee income.

Geographic and FICO composition of credit card loans

Refer to Note 11 for information on the geographic and FICO composition of the Firm's credit card loans.

Modifications of credit card loans

At September 30, 2019 and December 31, 2018, the Firm had $1.4 billion and $1.3 billion, respectively, of credit card loans outstanding that have been modified in TDRs. Refer to Note 11 for additional information about loan modification programs to borrowers.

In its wholesale businesses, the Firm is exposed to credit risk primarily through its underwriting, lending, market-making, and hedging activities with and for clients and counterparties, as well as through various operating services (such as cash management and clearing activities), securities financing activities and cash placed with banks. A portion of the loans originated or acquired by the Firm's wholesale businesses is generally retained on the balance sheet. The Firm distributes a significant percentage of the loans that it originates into the market as part of its syndicated loan business and to manage portfolio concentrations and credit risk.

The credit performance of the wholesale portfolio remained favorable for the nine months ended September 30, 2019, characterized by continued low levels of criticized exposure, nonaccrual loans and charge-offs. Refer to the industry discussion on pages 62–64 for further information. Loans held-for-sale decreased, driven by a loan syndication in CIB. The wholesale portfolio is actively managed, in part by conducting ongoing, in-depth reviews of client credit quality and transaction structure inclusive of collateral where applicable, and of industry, product and client concentrations.

In the following tables, the Firm's wholesale credit portfolio includes exposure held in CIB, CB, AWM and Corporate. It excludes all exposure managed by CCB, scored prime mortgage and scored home equity loans held in AWM and prime mortgage loans held in Corporate.

Wholesale credit portfolio

	Credit exposure		Nonperforming[c]	
(in millions)	**Sep 30, 2019**	Dec 31, 2018	**Sep 30, 2019**	Dec 31, 2018
Loans retained	**$437,507**	$ 439,162	**$ 1,470**	$ 1,150
Loans held-for-sale	**5,750**	11,877	**86**	–
Loans at fair value	**5,760**	3,151	**176**	220
Loans – reported	**449,017**	454,190	**1,732**	1,370
Derivative receivables	**55,577**	54,213	**26**	60
Receivables from customers and other[a]	**32,218**	30,063	**–**	–
Total wholesale credit-related assets	**536,812**	538,466	**1,758**	1,430
Lending-related commitments	**395,619**	387,813	**446**	469
Total wholesale credit exposure	**$932,431**	$ 926,279	**$ 2,204**	$ 1,899
Credit derivatives used in credit portfolio management activities[b]	**$ (15,031)**	$ (12,682)	**$ –**	$ –
Liquid securities and other cash collateral held against derivatives	**(15,482)**	(15,322)	**NA**	NA

(a) Receivables from customers and other include $32.2 billion and $30.1 billion of prime brokerage-related held-for-investment customer receivables at September 30, 2019, and December 31, 2018, respectively, to customers in CIB and AWM; these are classified in accrued interest and accounts receivable on the Consolidated balance sheets.
(b) Represents the net notional amount of protection purchased and sold through credit derivatives used to manage both performing and nonperforming wholesale credit exposures; these derivatives do not qualify for hedge accounting under U.S. GAAP. Refer to Credit derivatives on page 66 and Note 4 for additional information.
(c) Excludes assets acquired in loan satisfactions.

The following tables present the maturity and ratings profiles of the wholesale credit portfolio as of September 30, 2019, and December 31, 2018. The ratings scale is based on the Firm's internal risk ratings, which generally correspond to the ratings assigned by S&P and Moody's. Refer to Note 12 of JPMorgan Chase's 2018 Form 10-K for additional information on wholesale loan portfolio risk ratings.

Wholesale credit exposure – maturity and ratings profile

	Maturity profile[d]				Ratings profile			
					Investment-grade	Noninvestment-grade		
September 30, 2019 (in millions, except ratios)	Due in 1 year or less	Due after 1 year through 5 years	Due after 5 years	**Total**	AAA/Aaa to BBB-/Baa3	BB+/Ba1 & below	**Total**	Total % of IG
Loans retained	**$ 132,888**	**$ 199,877**	**$ 104,742**	**$ 437,507**	**$ 337,298**	**$ 100,209**	**$ 437,507**	**77%**
Derivative receivables				**55,577**			**55,577**	
Less: Liquid securities and other cash collateral held against derivatives				**(15,482)**			**(15,482)**	
Total derivative receivables, net of all collateral	**8,332**	**8,263**	**23,500**	**40,095**	**32,535**	**7,560**	**40,095**	**81**
Lending-related commitments	**75,484**	**307,093**	**13,042**	**395,619**	**291,144**	**104,475**	**395,619**	**74**
Subtotal	**216,704**	**515,233**	**141,284**	**873,221**	**660,977**	**212,244**	**873,221**	**76**
Loans held-for-sale and loans at fair value[a]				**11,510**			**11,510**	
Receivables from customers and other				**32,218**			**32,218**	
Total exposure – net of liquid securities and other cash collateral held against derivatives				**$ 916,949**			**$ 916,949**	
Credit derivatives used in credit portfolio management activities[b][c]	**$ (864)**	**$ (8,013)**	**$ (6,154)**	**$ (15,031)**	**$ (13,606)**	**$ (1,425)**	**$ (15,031)**	**91%**

	Maturity profile[d]				Ratings profile			
					Investment-grade	Noninvestment-grade		
December 31, 2018 (in millions, except ratios)	Due in 1 year or less	Due after 1 year through 5 years	Due after 5 years	**Total**	AAA/Aaa to BBB-/Baa3	BB+/Ba1 & below	**Total**	Total % of IG
Loans retained	$ 138,458	$ 196,974	$ 103,730	$ 439,162	$ 339,729	$ 99,433	$ 439,162	77%
Derivative receivables				54,213			54,213	
Less: Liquid securities and other cash collateral held against derivatives				(15,322)			(15,322)	
Total derivative receivables, net of all collateral	11,038	9,169	18,684	38,891	31,794	7,097	38,891	82
Lending-related commitments	79,400	294,855	13,558	387,813	288,724	99,089	387,813	74
Subtotal	228,896	500,998	135,972	865,866	660,247	205,619	865,866	76
Loans held-for-sale and loans at fair value[a]				15,028			15,028	
Receivables from customers and other				30,063			30,063	
Total exposure – net of liquid securities and other cash collateral held against derivatives				$ 910,957			$ 910,957	
Credit derivatives used in credit portfolio management activities[b][c]	$ (447)	$ (9,318)	$ (2,917)	$ (12,682)	$ (11,213)	$ (1,469)	$ (12,682)	88%

(a) Represents loans held-for-sale, primarily related to syndicated loans and loans transferred from the retained portfolio, and loans at fair value.
(b) These derivatives do not qualify for hedge accounting under U.S. GAAP.
(c) The notional amounts are presented on a net basis by underlying reference entity and the ratings profile shown is based on the ratings of the reference entity on which protection has been purchased. Predominantly all of the credit derivatives entered into by the Firm where it has purchased protection used in credit portfolio management activities are executed with investment-grade counterparties.
(d) The maturity profile of retained loans, lending-related commitments and derivative receivables is based on the remaining contractual maturity. Derivative contracts that are in a receivable position at September 30, 2019, may become payable prior to maturity based on their cash flow profile or changes in market conditions.

Wholesale credit exposure – industry exposures

The Firm focuses on the management and diversification of its industry exposures, and pays particular attention to industries with actual or potential credit concerns. Exposures deemed criticized align with the U.S. banking regulators' definition of criticized exposures, which consist of the special mention, substandard and doubtful categories. The total criticized component of the portfolio, excluding loans held-for-sale and loans at fair value, was $12.8 billion at September 30, 2019, compared with $12.1 billion at December 31, 2018. The increase was driven by select client downgrades across a number of sectors.

Below are summaries of the Firm's exposures as of September 30, 2019, and December 31, 2018. The industry of risk category is generally based on the client or counterparty's primary business activity. Refer to Note 4 of JPMorgan Chase's 2018 Form 10-K for additional information on industry concentrations.

Wholesale credit exposure – industries[(a)]

As of or for the nine months ended **September 30, 2019** (in millions)	Credit exposure[(f)]	Investment-grade	Noninvestment-grade			Selected metrics			
			Noncriticized	Criticized performing	Criticized nonperforming	30 days or more past due and accruing loans	Net charge-offs/ (recoveries)	Credit derivative hedges[(g)]	Liquid securities and other cash collateral held against derivative receivables
Real Estate	**$ 147,455**	**$ 121,699**	**$ 24,479**	**$ 1,210**	**$ 67**	**$ 28**	**$ 12**	**$ (79)**	**$ (2)**
Individuals and Individual Entities[(b)]	**99,653**	**88,477**	**10,815**	**269**	**92**	**548**	**27**	**—**	**(817)**
Consumer & Retail	**98,445**	**56,815**	**39,387**	**2,086**	**157**	**45**	**48**	**(227)**	**(5)**
Technology, Media & Telecommunications	**57,127**	**33,754**	**20,723**	**2,509**	**141**	**9**	**23**	**(612)**	**(17)**
Industrials	**57,085**	**38,511**	**17,203**	**1,222**	**149**	**158**	**30**	**(551)**	**(17)**
Banks & Finance Cos	**53,185**	**36,764**	**15,979**	**378**	**64**	**27**	**—**	**(832)**	**(2,683)**
Asset Managers	**50,119**	**44,006**	**6,096**	**4**	**13**	**26**	**—**	**—**	**(5,201)**
Healthcare	**48,041**	**36,641**	**10,422**	**891**	**87**	**40**	**6**	**(230)**	**(177)**
Oil & Gas	**44,007**	**23,882**	**18,615**	**635**	**875**	**9**	**43**	**(445)**	**(12)**
Utilities	**29,709**	**23,543**	**5,806**	**184**	**176**	**10**	**37**	**(387)**	**(75)**
State & Municipal Govt[(c)]	**26,806**	**26,287**	**519**	**—**	**—**	**13**	**—**	**—**	**(51)**
Chemicals & Plastics	**16,870**	**11,311**	**5,490**	**69**	**—**	**1**	**—**	**(10)**	**—**
Central Govt	**16,685**	**16,264**	**421**	**—**	**—**	**1**	**—**	**(8,527)**	**(2,836)**
Automotive	**16,430**	**10,053**	**5,978**	**399**	**—**	**6**	**—**	**(172)**	**—**
Metals & Mining	**15,049**	**8,396**	**6,280**	**359**	**14**	**—**	**(1)**	**(204)**	**(8)**
Transportation	**14,969**	**9,196**	**5,356**	**317**	**100**	**37**	**4**	**(36)**	**(38)**
Insurance	**13,365**	**10,517**	**2,824**	**19**	**5**	**—**	**—**	**(36)**	**(2,062)**
Financial Markets Infrastructure	**5,775**	**5,640**	**135**	**—**	**—**	**—**	**—**	**—**	**(7)**
Securities Firms	**4,418**	**2,789**	**1,605**	**24**	**—**	**—**	**—**	**(49)**	**(387)**
All other[(d)]	**73,510**	**70,286**	**2,892**	**330**	**2**	**20**	**7**	**(2,634)**	**(1,087)**
Subtotal	**$ 888,703**	**$ 674,831**	**$ 201,025**	**$ 10,905**	**$ 1,942**	**$ 978**	**$ 236**	**$ (15,031)**	**$ (15,482)**
Loans held-for-sale and loans at fair value	**11,510**								
Receivables from customers and other	**32,218**								
Total[(e)]	**$ 932,431**								

(continued from previous page)

As of or for the year ended December 31, 2018 (in millions)			Noninvestment-grade			Selected metrics			
	Credit exposure[f]	Investment-grade	Noncriticized	Criticized performing	Criticized nonperforming	30 days or more past due and accruing loans	Net charge-offs/ (recoveries)	Credit derivative hedges[g]	Liquid securities and other cash collateral held against derivative receivables
Real Estate	$ 143,316	$ 117,988	$ 24,174	$ 1,019	$ 135	$ 70	$ (20)	$ (2)	$ (1)
Individuals and Individual Entities[b]	97,077	86,581	10,164	174	158	703	12	–	(915)
Consumer & Retail	94,815	60,678	31,901	2,033	203	43	55	(248)	(14)
Technology, Media & Telecommunications	72,646	46,334	24,081	2,170	61	8	12	(1,011)	(12)
Industrials	58,528	38,487	18,594	1,311	136	171	20	(207)	(29)
Banks & Finance Cos	49,920	34,120	15,496	299	5	11	–	(575)	(2,290)
Asset Managers	42,807	36,722	6,067	4	14	10	–	–	(5,829)
Healthcare	48,142	36,687	10,625	761	69	23	(5)	(150)	(133)
Oil & Gas	42,600	23,356	17,451	1,158	635	6	36	(248)	–
Utilities	28,172	23,558	4,326	138	150	–	38	(142)	(60)
State & Municipal Govt[c]	27,351	26,746	603	2	–	18	(1)	–	(42)
Chemicals & Plastics	16,035	11,490	4,427	118	–	4	–	–	–
Central Govt	18,456	18,251	124	81	–	4	–	(7,994)	(2,130)
Automotive	17,339	9,637	7,310	392	–	1	–	(125)	–
Metals & Mining	15,359	8,188	6,767	385	19	1	–	(174)	(22)
Transportation	15,660	10,508	4,699	393	60	21	6	(31)	(112)
Insurance	12,639	9,777	2,830	–	32	–	–	(36)	(2,080)
Financial Markets Infrastructure	7,484	6,746	738	–	–	–	–	–	(26)
Securities Firms	4,558	3,099	1,459	–	–	–	–	(158)	(823)
All other[d]	68,284	64,664	3,606	12	2	2	2	(1,581)	(804)
Subtotal	$ 881,188	$ 673,617	$ 195,442	$ 10,450	$ 1,679	$ 1,096	$ 155	$ (12,682)	$ (15,322)
Loans held-for-sale and loans at fair value	15,028								
Receivables from customers and other	30,063								
Total[e]	$ 926,279								

(a) The industry rankings presented in the table as of December 31, 2018, are based on the industry rankings of the corresponding exposures at September 30, 2019, not actual rankings of such exposures at December 31, 2018.

(b) Individuals and Individual Entities predominantly consists of Wealth Management clients within AWM and includes exposure to personal investment companies and personal and testamentary trusts.

(c) In addition to the credit risk exposure to states and municipal governments (both U.S. and non-U.S.) at September 30, 2019, and December 31, 2018, noted above, the Firm held: $6.9 billion and $7.8 billion, respectively, of trading securities; $31.1 billion and $37.7 billion, respectively, of AFS securities; and $4.8 billion at both periods of held-to-maturity ("HTM") securities, issued by U.S. state and municipal governments. Refer to Note 2 and Note 9 for further information.

(d) All other includes: SPEs and Private education and civic organizations, representing approximately 91% and 9%, respectively, at September 30, 2019, and 92% and 8%, respectively, at December 31, 2018.

(e) Excludes cash placed with banks of $248.8 billion and $268.1 billion, at September 30, 2019, and December 31, 2018, respectively, which is predominantly placed with various central banks, primarily Federal Reserve Banks.

(f) Credit exposure is net of risk participations and excludes the benefit of credit derivatives used in credit portfolio management activities held against derivative receivables or loans and liquid securities and other cash collateral held against derivative receivables.

(g) Represents the net notional amounts of protection purchased and sold through credit derivatives used to manage the credit exposures; these derivatives do not qualify for hedge accounting under U.S. GAAP. The All other category includes purchased credit protection on certain credit indices.

Real Estate

Presented below is additional information on the Real Estate industry, to which the Firm has significant exposure.

Real Estate exposure increased $4.1 billion to $147.5 billion for the nine months ended September 30, 2019, and the investment grade percentage of the portfolio remained relatively flat at 83%. Refer to Note 11 for further information on Real Estate loans.

	September 30, 2019				
(in millions, except ratios)	**Loans and Lending-related Commitments**	**Derivative Receivables**	**Credit exposure**	**% Investment-grade**	**% Drawn[c]**
Multifamily[a]	**$ 85,666**	**$ 86**	**$ 85,752**	**91%**	**92%**
Other	**60,968**	**735**	**61,703**	**71**	**59**
Total Real Estate Exposure[b]	**146,634**	**821**	**147,455**	**83**	**79**

	December 31, 2018				
(in millions, except ratios)	Loans and Lending-related Commitments	Derivative Receivables	Credit exposure	% Investment-grade	% Drawn[c]
Multifamily[a]	$ 85,683	$ 33	$ 85,716	89%	92%
Other	57,469	131	57,600	72	63
Total Real Estate Exposure[b]	143,152	164	143,316	82	81

(a) Multifamily exposure is largely in California.
(b) Real Estate exposure is predominantly secured; unsecured exposure is predominantly investment-grade.
(c) Represents drawn exposure as a percentage of credit exposure.

Loans

In the normal course of its wholesale business, the Firm provides loans to a variety of clients, ranging from large corporate and institutional clients to high-net-worth individuals. Refer to Note 11 for a further discussion on loans, including information on credit quality indicators and sales of loans.

The following table presents the change in the nonaccrual loan portfolio for the nine months ended September 30, 2019 and 2018.

Wholesale nonaccrual loan activity

Nine months ended September 30, (in millions)	**2019**	2018
Beginning balance	**$ 1,370**	$ 1,734
Additions	**1,907**	570
Reductions:		
Paydowns and other	**1,097**	541
Gross charge-offs	**235**	251
Returned to performing status	**25**	217
Sales	**188**	287
Total reductions	**1,545**	1,296
Net changes	**362**	(726)
Ending balance	**$ 1,732**	$ 1,008

The following table presents net charge-offs/recoveries, which are defined as gross charge-offs less recoveries, for the three and nine months ended September 30, 2019 and 2018. The amounts in the table below do not include gains or losses from sales of nonaccrual loans.

Wholesale net charge-offs/ (recoveries)

	Three months ended September 30,		Nine months ended September 30,	
(in millions, except ratios)	**2019**	2018	**2019**	2018
Loans – reported				
Average loans retained	**$ 433,744**	$420,597	**$ 434,434**	$ 413,537
Gross charge-offs	**120**	23	**270**	264
Gross recoveries	**(12)**	(70)	**(34)**	(146)
Net charge-offs/ (recoveries)	**108**	(47)	**236**	118
Net charge-off/ (recovery) rate	**0.10%**	(0.04)%	**0.07%**	0.04%

Lending-related commitments

The Firm uses lending-related financial instruments, such as commitments (including revolving credit facilities) and guarantees, to address the financing needs of its clients. The contractual amounts of these financial instruments represent the maximum possible credit risk should the clients draw down on these commitments or the Firm fulfill its obligations under these guarantees, and the clients subsequently fail to perform according to the terms of these contracts. Most of these commitments and guarantees are refinanced, extended, cancelled, or expire without being drawn upon or a default occurring. In the Firm's view, the total contractual amount of these wholesale lending-related commitments is not representative of the Firm's expected future credit exposure or funding requirements. Refer to Note 22 for further information on wholesale lending-related commitments.

Derivative contracts

Derivatives enable clients and counterparties to manage risks including credit risk and risks arising from fluctuations in interest rates, foreign exchange, equities, and commodities. The Firm makes markets in derivatives in order to meet these needs and uses derivatives to manage certain risks associated with net open risk positions from its market-making activities, including the counterparty credit risk arising from derivative receivables. The Firm also uses derivative instruments to manage its own credit and other market risk exposure. Refer to Note 4 for a further discussion of derivative contracts.

The following table summarizes the net derivative receivables for the periods presented.

Derivative receivables

(in millions)	September 30, 2019	December 31, 2018
Total, net of cash collateral	**55,577**	54,213
Liquid securities and other cash collateral held against derivative receivables[(a)]	**(15,482)**	(15,322)
Total, net of collateral	**$ 40,095**	$ 38,891

(a) Includes collateral related to derivative instruments where appropriate legal opinions have not been either sought or obtained with respect to master netting agreements.

The fair value of derivative receivables reported on the Consolidated balance sheets were $55.6 billion and $54.2 billion at September 30, 2019, and December 31, 2018, respectively. Derivative receivables represent the fair value of the derivative contracts after giving effect to legally enforceable master netting agreements and cash collateral held by the Firm. However, in management's view, the appropriate measure of current credit risk should also take into consideration additional liquid securities (primarily U.S. government and agency securities and other group of seven nations ("G7") government securities) and other cash collateral held by the Firm aggregating $15.5 billion and $15.3 billion at September 30, 2019, and December 31, 2018, respectively, that may be used as security when the fair value of the client's exposure is in the Firm's favor.

In addition to the collateral described in the preceding paragraph, the Firm also holds additional collateral (primarily cash, G7 government securities, other liquid government agency and guaranteed securities, and corporate debt and equity securities) delivered by clients at the initiation of transactions, as well as collateral related to contracts that have a non-daily call frequency and collateral that the Firm has agreed to return but has not yet settled as of the reporting date. Although this collateral does not reduce the balances and is not included in the table above, it is available as security against potential exposure that could arise should the fair value of the client's derivative contracts move in the Firm's favor. The derivative receivables fair value, net of all collateral, also does not include other credit enhancements, such as letters of credit. Refer to Note 4 for additional information on the Firm's use of collateral agreements.

The following table summarizes the ratings profile of the Firm's derivative receivables, including credit derivatives, net of all collateral, at the dates indicated. The ratings scale is based on the Firm's internal ratings, which generally correspond to the ratings as assigned by S&P and Moody's.

Ratings profile of derivative receivables

Rating equivalent	**September 30, 2019**		December 31, 2018	
(in millions, except ratios)	Exposure net of all collateral	% of exposure net of all collateral	Exposure net of all collateral	% of exposure net of all collateral
AAA/Aaa to AA-/Aa3	**$ 10,663**	**27%**	$ 11,831	31%
A+/A1 to A-/A3	**6,106**	**15**	7,428	19
BBB+/Baa1 to BBB-/Baa3	**15,766**	**39**	12,536	32
BB+/Ba1 to B-/B3	**7,116**	**18**	6,373	16
CCC+/Caa1 and below	**444**	**1**	723	2
Total	**$ 40,095**	**100%**	$ 38,891	100%

As previously noted, the Firm uses collateral agreements to mitigate counterparty credit risk. The percentage of the Firm's over-the-counter derivative contracts subject to collateral agreements – excluding foreign exchange spot trades, which are not typically covered by collateral agreements due to their short maturity and centrally cleared trades that are settled daily – was approximately 90% at both September 30, 2019, and December 31, 2018.

Credit derivatives

The Firm uses credit derivatives for two primary purposes: first, in its capacity as a market-maker, and second, as an end-user, to manage the Firm's own credit risk associated with various exposures.

Credit portfolio management activities

Included in the Firm's end-user activities are credit derivatives used to mitigate the credit risk associated with traditional lending activities (loans and unfunded commitments) and derivatives counterparty exposure in the Firm's wholesale businesses (collectively, "credit portfolio management" activities). Information on credit portfolio management activities is provided in the table below.

Credit derivatives used in credit portfolio management activities

	Notional amount of protection purchased and sold[(a)]	
(in millions)	**September 30, 2019**	December 31, 2018
Credit derivatives used to manage:		
Loans and lending-related commitments	**$ 1,726**	$ 1,272
Derivative receivables	**13,305**	11,410
Credit derivatives used in credit portfolio management activities	**$ 15,031**	$ 12,682

(a) Amounts are presented net, considering the Firm's net protection purchased or sold with respect to each underlying reference entity or index.

Refer to Credit derivatives in Note 4 of this Form 10-Q and Note 5 of JPMorgan Chase's 2018 Form 10-K for further information on credit derivatives and derivatives used in credit portfolio management activities.

ALLOWANCE FOR CREDIT LOSSES

The Firm's allowance for credit losses covers the retained consumer and wholesale loan portfolios, as well as the Firm's wholesale and certain consumer lending-related commitments.

Refer to Critical Accounting Estimates Used by the Firm on pages 76–77 and Note 12 of this Form 10-Q, and Critical Accounting Estimates Used by the Firm on pages 141-143 and Note 13 of JPMorgan Chase's 2018 Form 10-K for further information on the components of the allowance for credit losses and related management judgments.

At least quarterly, the allowance for credit losses is reviewed by the CRO, the CFO and the Controller of the Firm. As of September 30, 2019, JPMorgan Chase deemed the allowance for credit losses to be appropriate and sufficient to absorb probable credit losses inherent in the portfolio.

The allowance for credit losses decreased compared with December 31, 2018, driven by:

- a $550 million reduction in the CCB allowance for loan losses, which includes $400 million in the PCI residential real estate portfolio, reflecting continued improvement in home prices and delinquencies; $100 million in the non credit-impaired residential real estate portfolio; and $50 million in the business banking portfolio; as well as
- a $132 million reduction for write-offs of PCI loans,

predominantly offset by

- a $400 million addition to the allowance for loan losses in the credit card portfolio reflecting higher loss rates, as newer vintages season and become a larger part of the portfolio and loan growth; as well as
- a $170 million addition in the wholesale allowance for credit losses largely driven by select C&I client downgrades.

Refer to Consumer Credit Portfolio on pages 56–59, Wholesale Credit Portfolio on pages 60–66 and Note 11 for additional information on the consumer and wholesale credit portfolios.

Summary of changes in the allowance for credit losses

Nine months ended September 30, (in millions, except ratios)	2019				2018			
	Consumer, excluding credit card	Credit card	Wholesale	Total	Consumer, excluding credit card	Credit card	Wholesale	Total
Allowance for loan losses								
Beginning balance at January 1,	**$ 4,146**	**$ 5,184**	**$ 4,115**	**$ 13,445**	$ 4,579	$ 4,884	$ 4,141	$ 13,604
Gross charge-offs	**702**	**4,050**	**270**	**5,022**	776	3,777	264	4,817
Gross recoveries	**(420)**	**(433)**	**(34)**	**(887)**	(681)	(370)	(146)	(1,197)
Net charge-offs	**282**	**3,617**	**236**	**4,135**	95	3,407	118	3,620
Write-offs of PCI loans[(a)]	**132**	**–**	**–**	**132**	151	–	–	151
Provision for loan losses	**(265)**	**4,017**	**296**	**4,048**	(152)	3,557	(111)	3,294
Other	**–**	**(1)**	**10**	**9**	1	–	–	1
Ending balance at September 30,	**$ 3,467**	**$ 5,583**	**$ 4,185**	**$ 13,235**	$ 4,182	$ 5,034	$ 3,912	$ 13,128
Impairment methodology								
Asset-specific[(b)]	**$ 145**	**$ 488**	**$ 342**	**$ 975**	$ 204	$ 421	$ 280	$ 905
Formula-based	**2,066**	**5,095**	**3,843**	**11,004**	2,154	4,613	3,632	10,399
PCI	**1,256**	**–**	**–**	**1,256**	1,824	–	–	1,824
Total allowance for loan losses	**$ 3,467**	**$ 5,583**	**$ 4,185**	**$ 13,235**	$ 4,182	$ 5,034	$ 3,912	$ 13,128
Allowance for lending-related commitments								
Beginning balance at January 1,	**$ 33**	**$ –**	**$ 1,022**	**$ 1,055**	$ 33	$ –	$ 1,035	$ 1,068
Provision for lending-related commitments	**–**	**–**	**110**	**110**	–	–	29	29
Other	**–**	**–**	**–**	**–**	–	–	–	–
Ending balance at September 30,	**$ 33**	**$ –**	**$ 1,132**	**$ 1,165**	$ 33	$ –	$ 1,064	$ 1,097
Impairment methodology								
Asset-specific	**$ –**	**$ –**	**$ 135**	**$ 135**	$ –	$ –	$ 71	$ 71
Formula-based	**33**	**–**	**997**	**1,030**	33	–	993	1,026
Total allowance for lending-related commitments[(c)]	**$ 33**	**$ –**	**$ 1,132**	**$ 1,165**	$ 33	$ –	$ 1,064	$ 1,097
Total allowance for credit losses	**$ 3,500**	**$ 5,583**	**$ 5,317**	**$ 14,400**	$ 4,215	$ 5,034	$ 4,976	$ 14,225
Memo:								
Retained loans, end of period	**$331,809**	**$ 159,571**	**$ 437,507**	**$928,887**	$375,958	$147,856	$ 423,837	$947,651
Retained loans, average	**355,865**	**154,367**	**434,434**	**944,666**	374,298	143,931	413,537	931,766
PCI loans, end of period	**21,290**	**–**	**–**	**21,290**	25,209	–	3	25,212
Credit ratios								
Allowance for loan losses to retained loans	**1.04%**	**3.50%**	**0.96%**	**1.42%**	1.11%	3.40%	0.92%	1.39%
Allowance for loan losses to retained nonaccrual loans[(d)]	**108**	**NM**	**285**	**282**	115	NM	394	284
Allowance for loan losses to retained nonaccrual loans excluding credit card	**108**	**NM**	**285**	**163**	115	NM	394	175
Net charge-off rates	**0.11**	**3.13**	**0.07**	**0.59**	0.03	3.16	0.04	0.52
Credit ratios, excluding residential real estate PCI loans								
Allowance for loan losses to retained loans	**0.71**	**3.50**	**0.96**	**1.32**	0.67	3.40	0.92	1.23
Allowance for loan losses to retained nonaccrual loans[(d)]	**69**	**NM**	**285**	**256**	65	NM	394	244
Allowance for loan losses to retained nonaccrual loans excluding credit card	**69**	**NM**	**285**	**136**	65	NM	394	135
Net charge-off rates	**0.11%**	**3.13%**	**0.07%**	**0.60%**	0.04%	3.16%	0.04%	0.54%

Note: In the table above, the financial measures which exclude the impact of PCI loans are non-GAAP financial measures.

(a) Write-offs of PCI loans are recorded against the allowance for loan losses when actual losses for a pool exceed estimated losses that were recorded as purchase accounting adjustments at the time of acquisition. A write-off of a PCI loan is recognized when the underlying loan is removed from a pool.

(b) Includes risk-rated loans that have been placed on nonaccrual status and loans that have been modified in a TDR. The asset-specific credit card allowance for loan losses modified in a TDR is calculated based on the loans' original contractual interest rates and does not consider any incremental penalty rates.

(c) The allowance for lending-related commitments is reported in accounts payable and other liabilities on the Consolidated balance sheets.

(d) The Firm's policy is generally to exempt credit card loans from being placed on nonaccrual status as permitted by regulatory guidance.

Investment portfolio risk is the risk associated with the loss of principal or a reduction in expected returns on investments arising from the investment securities portfolio held predominantly by Treasury and CIO in connection with the Firm's balance sheet or asset-liability management objectives or from principal investments managed in the LOBs and Corporate in predominantly privately-held financial instruments. Investments are typically intended to be held over extended periods and, accordingly, the Firm has no expectation for short-term realized gains with respect to these investments.

Investment securities risk

Investment securities risk includes the exposure associated with a default in the payment of principal and interest. This risk is mitigated given that Treasury and CIO substantially invest in high-quality securities. At September 30, 2019, the Treasury and CIO investment securities portfolio was $392.4 billion, and the average credit rating of the securities comprising the portfolio was AA+ (based upon external ratings where available and where not available, based primarily upon internal ratings that correspond to ratings as defined by S&P and Moody's). Refer to Corporate segment results on pages 42–43 and Note 9 for further information on the investment securities portfolio. Refer to Market Risk Management on pages 70–74 for further information on the market risk inherent in the portfolio. Refer to Liquidity Risk on pages 50–54 for further information on related liquidity risk.

Principal investment risk

Principal investments are typically private non-traded financial instruments representing ownership or other forms of junior capital. Principal investments span multiple asset classes and are made either in stand-alone investing businesses or as part of a broader business platform. In general, new principal investments include tax-oriented investments, as well as investments made to enhance or accelerate LOB and Corporate strategic business initiatives. The Firm's principal investments are managed by the LOBs and Corporate and are reflected within their respective financial results.

As of September 30, 2019 and December 31, 2018, the aggregate carrying values of the principal investment portfolios were $23.3 billion and $22.2 billion, respectively, which included tax-oriented investments (e.g., affordable housing and alternative energy investments) of $16.7 billion and $16.6 billion, respectively, and private equity, various debt and equity instruments, and real assets of $6.6 billion and $5.6 billion, respectively.

Refer to page 123 of JPMorgan Chase's 2018 Form 10-K for a discussion of the Firm's Investment Portfolio Risk Management governance and oversight.

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. Refer to Market Risk Management on pages 124–131 of JPMorgan Chase's 2018 Form 10-K for a discussion of the Firm's Market Risk Management organization, market risk measurement, risk monitoring and control, and predominant business activities that give rise to market risk.

Value-at-risk

JPMorgan Chase utilizes value-at-risk ("VaR"), a statistical risk measure, 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.

The Firm's Risk Management VaR is calculated assuming a one-day holding period and an expected tail-loss methodology which approximates a 95% confidence level. For risk management purposes, the Firm believes this methodology provides a daily measure of risk that is closely aligned to risk management decisions made by the lines of business and Corporate and, along with other market risk measures, provides the appropriate information needed to respond to risk events. The Firm calculates separately a daily aggregated VaR in accordance with regulatory rules ("Regulatory VaR"), which is used to derive the Firm's regulatory VaR-based capital requirements under Basel III.

The Firm's VaR model calculations are periodically evaluated and enhanced in response to changes in the composition of the Firm's portfolios, changes in market conditions, improvements in the Firm's modeling techniques and measurements, and other factors. Such changes may affect historical comparisons of VaR results. Refer to Estimations and Model Risk Management on page 140 of JPMorgan Chase's 2018 Form 10-K for information regarding model reviews and approvals.

Refer to page 126 of JPMorgan Chase's 2018 Form 10-K for further information regarding VaR, including the inherent limitations, and the key differences between Risk Management VaR and Regulatory VaR. Refer to JPMorgan Chase's Basel III Pillar 3 Regulatory Capital Disclosures reports, which are available on the Firm's website at: (http://investor.shareholder.com/jpmorganchase/basel.cfm) for additional information on Regulatory VaR and the other components of market risk regulatory capital for the Firm (e.g., VaR-based measure, stressed VaR-based measure and the respective backtesting). Refer to Other risk measures on pages 129-131 of JPMorgan Chase's 2018 Form 10-K for further information regarding nonstatistical market risk measures used by the Firm.

The table below shows the results of the Firm's Risk Management VaR measure using a 95% confidence level. VaR can vary significantly as positions change, market volatility fluctuates, and diversification benefits change.

Total VaR

	Three months ended								
	September 30, 2019			June 30, 2019			September 30, 2018		
(in millions)	Avg.	Min	Max	Avg.	Min	Max	Avg.	Min	Max
CIB trading VaR by risk type									
Fixed income	**$37**	**$ 31**	**$ 46**	$39	$ 33	$ 45	$30	$25	$ 37
Foreign exchange	**6**	**4**	**8**	7	5	12	5	3	11
Equities	**22**	**19**	**27**	25	14	31	16	13	19
Commodities and other	**8**	**7**	**9**	9	7	10	9	7	11
Diversification benefit to CIB trading VaR	**(34)** [a]	**NM** [b]	**NM** [b]	(36) [a]	NM [b]	NM [b]	(27) [a]	NM [b]	NM [b]
CIB trading VaR	**39**	**33** [b]	**47** [b]	44	34 [b]	55 [b]	33	27 [b]	41 [b]
Credit portfolio VaR	**5**	**4**	**7**	5	4	7	3	3	4
Diversification benefit to CIB VaR	**(6)** [a]	**NM** [b]	**NM** [b]	(5) [a]	NM [b]	NM [b]	(3) [a]	NM [b]	NM [b]
CIB VaR	**38**	**33** [b]	**46** [b]	44	35 [b]	55 [b]	33	28 [b]	42 [b]
CCB VaR	**6**	**2**	**11**	4	2	7	1	1	2
Corporate VaR	**10**	**9**	**11**	10	9	10	13	12	14
Diversification benefit to other VaR	**(5)** [a]	**NM** [b]	**NM** [b]	(5) [a]	NM [b]	NM [b]	(1) [a]	NM [b]	NM [b]
Other VaR	**11**	**9** [b]	**15** [b]	9	8 [b]	11 [b]	13	12 [b]	14 [b]
Diversification benefit to CIB and other VaR	**(10)** [a]	**NM** [b]	**NM** [b]	(7) [a]	NM [b]	NM [b]	(11) [a]	NM [b]	NM [b]
Total VaR	**$39**	**$ 35** [b]	**$ 46** [b]	$46	$ 36 [b]	$ 57 [b]	$35	$30 [b]	$ 43 [b]

(a) Average portfolio VaR is less than the sum of the VaR of the components described above, which is due to portfolio diversification. The diversification effect reflects that the risks are not perfectly correlated.

(b) Diversification benefit represents the difference between the total VaR and each reported level and the sum of its individual components. Diversification benefit reflects the non-additive nature of VaR due to imperfect correlation across lines of business, Corporate, and risk types. The maximum and minimum VaR for each portfolio may have occurred on different trading days than the components and consequently diversification benefit is not meaningful.

Quarter over quarter results

Average total VaR decreased by $7 million for the three months ended September 30, 2019 as compared with the prior quarter. This reflects a reduction in risk across the Fixed Income and Foreign Exchange risk types, as well as a decrease in the Equities risk type driven by certain CIB investments, including Tradeweb.

Year over year results

Average total VaR increased by $4 million for the three months ended September 30, 2019, compared with the same period in the prior year. The increase in average total VaR is primarily due to increased exposure in the Fixed Income risk type, as well as an increase in the Equities risk type in CIB driven by the inclusion of Tradeweb following the IPO in the second quarter of 2019.

In addition, average CCB VaR has increased by $5 million, driven by mortgage servicing rights risk management activities.

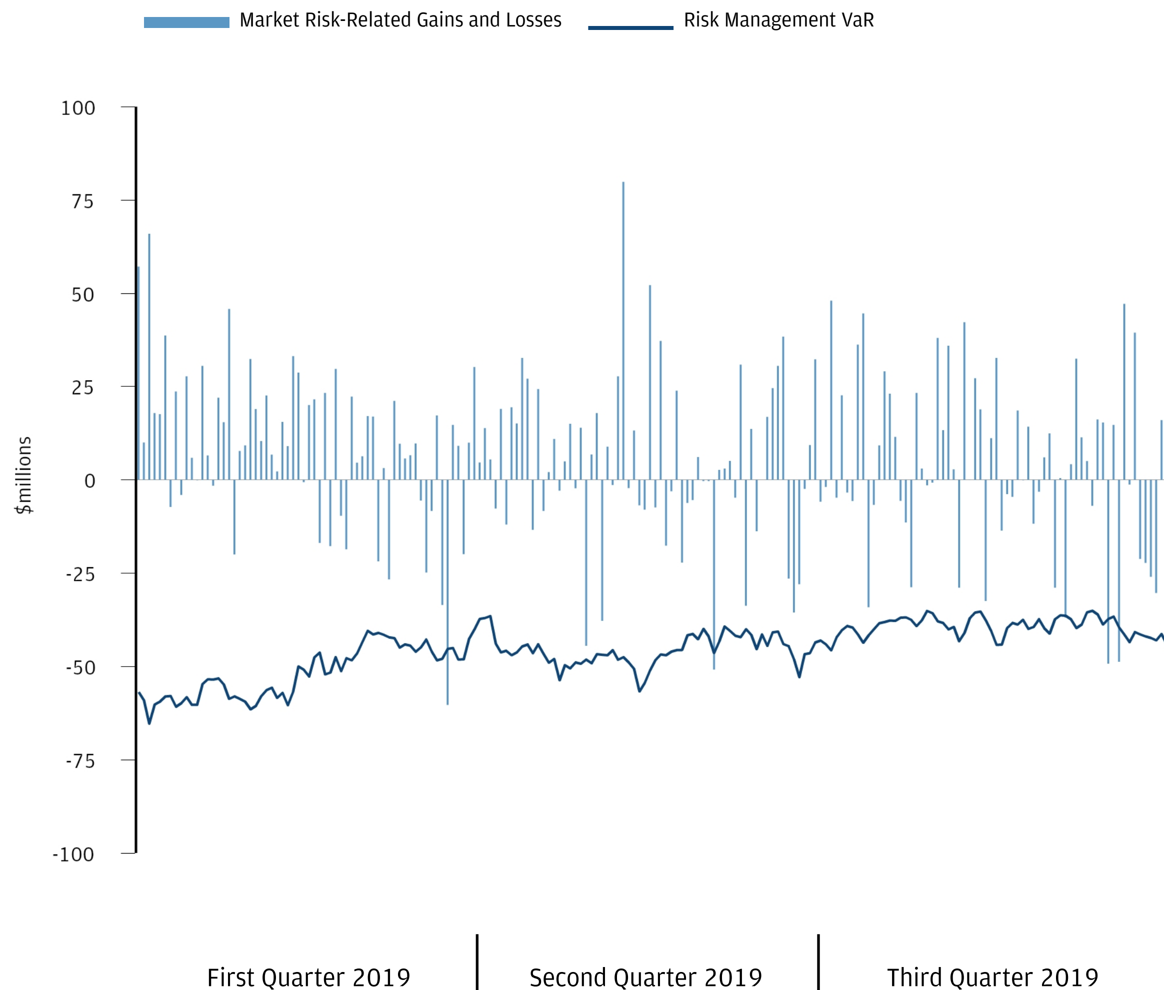
VaR back-testing

The Firm performs daily VaR model back-testing, which compares the daily Risk Management VaR results with the daily gains and losses actually recognized on market-risk related revenue.

The Firm's definition of market risk-related gains and losses is consistent with the definition used by the banking regulators under Basel III. Under this definition market risk-related gains and losses are defined as: gains and losses on the positions included in the Firm's Risk Management VaR excluding fees, commissions, certain valuation adjustments, net interest income, and gains and losses arising from intraday trading.

The following chart compares actual daily market risk-related gains and losses with the Firm's Risk Management VaR for the nine months ended September 30, 2019. As the chart presents market risk-related gains and losses related to those positions included in the Firm's Risk Management VaR, the results in the table below differ from the results of back-testing disclosed in the Market Risk section of the Firm's Basel III Pillar 3 Regulatory Capital Disclosures reports, which are based on Regulatory VaR applied to CIB's covered positions. For the nine months ended September 30, 2019, the Firm observed five VaR back-testing exceptions and posted market risk-related gains on 116 of the 194 days. For the three months ended September 30, 2019, the Firm observed three VaR back-testing exceptions and posted market risk-related gains on 35 of the 66 days.

Daily Market Risk-Related Gains and Losses
vs. Risk Management VaR (1-day, 95% Confidence level)
Nine months ended September 30, 2019



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 the table on page 125 of JPMorgan Chase's 2018 Form 10-K for a summary by line of business and Corporate, identifying positions included in earnings-at-risk.

One way the Firm evaluates its structural interest rate risk is through earnings-at-risk. Earnings-at-risk estimates the Firm's interest rate exposure for a given interest rate scenario. It is presented as a sensitivity to a baseline, which includes net interest income and certain interest rate sensitive fees. The baseline uses market interest rates and in the case of deposits, pricing assumptions. The Firm conducts simulations of changes to this baseline for interest rate-sensitive assets and liabilities denominated in U.S. dollars and other currencies ("non-U.S. dollar" currencies). These simulations primarily include retained loans, deposits, deposits with banks, investment securities, long term debt and any related interest rate hedges, and exclude other positions in risk management VaR and other sensitivity-based measures as described on page 125 of JPMorgan Chase's 2018 Form 10-K.

Earnings-at-risk scenarios estimate the potential change to a net interest income baseline, over the following 12 months utilizing multiple assumptions. These scenarios include a parallel shift involving changes to both short-term and long-term rates by an equal amount; a steeper yield curve involving holding short-term rates constant and increasing long-term rates or decreasing short-term rates and holding long-term rates constant; and a flatter yield curve involving increasing short-term rates and holding long-term rates constant or holding short-term rates constant and decreasing long-term rates. These scenarios consider many different factors, including:

- The impact on exposures as a result of instantaneous changes in interest rates from baseline rates.
- Forecasted balance sheet, as well as modeled prepayment and reinvestment behavior, but do not include assumptions about actions that could be taken by the Firm in response to any such instantaneous rate changes. Mortgage prepayment assumptions are based on the interest rates used in the scenarios compared with underlying contractual rates, the time since origination, and other factors which are updated periodically based on historical experience.
- The pricing sensitivity of deposits, using normalized deposit betas over the cycle. These normalized deposit betas represent the amount by which deposit rates paid could change upon a given change in market interest rates. The deposit rates paid in these scenarios differ from actual deposit rates paid, particularly for retail deposits, due to repricing lags and other factors.

The Firm's earnings-at-risk scenarios are periodically evaluated and enhanced in response to changes in the composition of the Firm's balance sheet, changes in market conditions, improvements in the Firm's simulation and other factors. While a relevant measure of the Firm's interest rate exposure, the earnings at risk analysis does not represent a forecast of the Firm's net interest income (Refer to 2019 Outlook on page 8 for additional information).

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

(in billions)	September 30, 2019	December 31, 2018
Parallel shift:		
+100 bps shift in rates	**$ 0.7**	$ 0.9
-100 bps shift in rates	**(2.6)**	(2.1)
Steeper yield curve:		
+100 bps shift in long-term rates	**0.9**	0.5
-100 bps shift in short-term rates	**(0.9)**	(1.2)
Flatter yield curve:		
+100 bps shift in short-term rates	**(0.2)**	0.4
-100 bps shift in long-term rates	**(1.6)**	(0.9)

The change in the Firm's U.S. dollar sensitivities as of September 30, 2019 compared to December 31, 2018 reflected updating the Firm's baseline for lower short-term and long-term rates as well as the impact of changes in the Firm's balance sheet. The Firm's sensitivity to short-term rates decreased as a result of changes in the Firm's balance sheet primarily offset by updating the Firm's baseline to reflect lower rates. The Firm's sensitivity to long-term rates increased primarily as a result of updating the Firm's baseline to reflect lower rates and is more impactful to the downward scenario due to the Firm's sensitivity to mortgage prepayments.

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

(in billions)	September 30, 2019	December 31, 2018
Parallel shift:		
+100 bps shift in rates	**$ 0.5**	$ 0.5
Flatter yield curve:		
+100 bps shift in short-term rates	**0.5**	0.5

The results of the non-U.S. dollar interest rate scenario involving a steeper yield curve with long-term rates rising by 100 basis points and short-term rates staying at current levels were not material to the Firm's earnings-at-risk at September 30, 2019 and December 31, 2018.

Other sensitivity-based measures

The Firm quantifies the market risk of certain investment and funding activities by assessing the potential impact on net revenue and OCI due to changes in relevant market variables. Refer to the table Predominant business activities that give rise to market risk on page 125 of JPMorgan Chase's 2018 Form 10-K for additional information on the positions captured in other sensitivity-based measures.

The table below represents the potential impact to net revenue or OCI for market risk-sensitive instruments that are not included in VaR or earnings-at-risk. Where appropriate, instruments used for hedging purposes are reported along with the positions being hedged. The sensitivities disclosed in the table below may not be representative of the actual gain or loss that would have been realized at September 30, 2019 and December 31, 2018, as the movement in market parameters across maturities may vary and are not intended to imply management's expectation of future deterioration in these sensitivities.

Gain/(loss) (in millions) **Activity**	**Description**	**Sensitivity measure**	**September 30, 2019**	December 31, 2018
Investment activities[(a)]				
Investment management activities	Consists of seed capital and related hedges; and fund co-investments	10% decline in market value	**$ (79)**	$ (102)
Other investments	Consists of privately held equity and other investments held at fair value	10% decline in market value	**(202)**	(218)
Funding activities				
Non-USD LTD cross-currency basis	Represents the basis risk on derivatives used to hedge the foreign exchange risk on the non-USD LTD[(b)]	1 basis point parallel tightening of cross currency basis	**(15)**	(13)
Non-USD LTD hedges foreign currency ("FX") exposure	Primarily represents the foreign exchange revaluation on the fair value of the derivative hedges[(b)]	10% depreciation of currency	**7**	17
Derivatives – funding spread risk	Impact of changes in the spread related to derivatives FVA	1 basis point parallel increase in spread	**(5)**	(4)
Fair value option elected liabilities – funding spread risk	Impact of changes in the spread related to fair value option elected liabilities DVA[(b)]	1 basis point parallel increase in spread	**28**	30
Fair value option elected liabilities – interest rate sensitivity	Interest rate sensitivity on fair value option liabilities resulting from a change in the Firm's own credit spread[(b)]	1 basis point parallel increase in spread	**1**	1

(a) Excludes equity securities without readily determinable fair values that are measured under the measurement alternative. Refer to Note 2 for additional information.
(b) Impact recognized through OCI.

The Firm, through its lines of business and Corporate, may be exposed to country risk resulting from financial, economic, political or other significant developments which adversely affect the value of the Firm's exposures related to a particular country or set of countries. The Country Risk Management group actively monitors the various portfolios which may be impacted by these developments and measures the extent to which the Firm's exposures are diversified given the Firm's strategy and risk tolerance relative to a country.

Refer to pages 132-133 of JPMorgan Chase's 2018 Form 10-K for a further discussion of the Firm's country risk management.

The following table presents the Firm's top 20 exposures by country (excluding the U.S.) as of September 30, 2019 and their comparative exposures as of December 31, 2018. The selection of countries represents the Firm's largest total exposures by country, based on the Firm's internal country risk management approach, and does not represent the Firm's view of any actual or potentially adverse credit conditions. Country exposures may fluctuate from period to period due to client activity and market flows.

Top 20 country exposures (excluding the U.S.)[a]

(in billions)	September 30, 2019				December 31, 2018[e]
	Lending and deposits[b]	Trading and investing[c]	Other[d]	Total exposure	Total exposure
Germany	**$ 58.1**	**$ 6.2**	**$ 0.4**	**$ 64.7**	$ 62.1
United Kingdom	**28.8**	**10.0**	**3.7**	**42.5**	40.7
Japan	**23.3**	**4.2**	**0.3**	**27.8**	29.1
Switzerland	**10.7**	**1.0**	**7.6**	**19.3**	12.8
France	**11.3**	**4.8**	**1.5**	**17.6**	17.9
China	**9.3**	**6.7**	**1.4**	**17.4**	19.3
Canada	**12.0**	**1.5**	**—**	**13.5**	14.3
India	**5.0**	**4.8**	**2.8**	**12.6**	11.8
Luxembourg	**11.6**	**0.7**	**—**	**12.3**	11.0
Australia	**7.1**	**5.0**	**—**	**12.1**	13.0
Netherlands	**6.0**	**1.2**	**3.0**	**10.2**	5.8
Brazil	**4.0**	**4.9**	**—**	**8.9**	7.3
Singapore	**4.3**	**1.6**	**2.6**	**8.5**	6.8
Saudi Arabia	**7.2**	**0.9**	**—**	**8.1**	5.3
South Korea	**4.0**	**3.6**	**0.1**	**7.7**	7.6
Italy	**2.2**	**4.7**	**0.1**	**7.0**	6.4
Hong Kong	**3.4**	**1.5**	**1.7**	**6.6**	5.4
Spain	**3.3**	**3.3**	**—**	**6.6**	5.1
Mexico	**4.2**	**0.9**	**—**	**5.1**	5.5
Belgium	**3.6**	**0.5**	**—**	**4.1**	2.3

(a) Top 20 country exposures reflect approximately 87% and 86% of total firmwide non-U.S. exposure, where exposure is attributed to a specific country, at September 30, 2019, and December 31, 2018 respectively.
(b) Lending and deposits includes loans and accrued interest receivable (net of eligible collateral and the allowance for loan losses), deposits with banks (including central banks), acceptances, other monetary assets, issued letters of credit net of participations, and unused commitments to extend credit. Excludes intra-day and operating exposures, such as those from settlement and clearing activities.
(c) Includes market-making inventory, AFS securities, and counterparty exposure on derivative and securities financings net of eligible collateral and hedging. Includes exposure from single reference entity ("single-name"), index and other multiple reference entity transactions for which one or more of the underlying reference entities is in a country listed in the above table.
(d) Predominantly includes physical commodity inventory.
(e) The country rankings presented in the table as of December 31, 2018, are based on the country rankings of the corresponding exposures at September 30, 2019, not actual rankings of such exposures at December 31, 2018.

JPMorgan Chase's accounting policies and use of estimates are integral to understanding its reported results. The Firm's most complex accounting estimates require management's judgment to ascertain the appropriate carrying value of assets and liabilities. The Firm has established policies and control procedures intended to ensure that estimation methods, including any judgments made as part of such methods, are well-controlled, independently reviewed and applied consistently from period to period. The methods used and judgments made reflect, among other factors, the nature of the assets or liabilities and the related business and risk management strategies, which may vary across the Firm's businesses and portfolios. In addition, the policies and procedures are intended to ensure that the process for changing methodologies occurs in an appropriate manner. The Firm believes its estimates for determining the carrying value of its assets and liabilities are appropriate. The following is a brief description of the Firm's critical accounting estimates involving significant judgments.

Allowance for credit losses

The Firm's allowance for credit losses covers the retained consumer and wholesale loan portfolios, as well as the Firm's wholesale and certain consumer lending-related commitments. The allowance for loan losses is intended to adjust the carrying value of the Firm's loan assets to reflect probable credit losses inherent in the loan portfolio as of the balance sheet date. Similarly, the allowance for lending-related commitments is established to cover probable credit losses inherent in the lending-related commitments portfolio as of the balance sheet date.

The allowance for credit losses includes a formula-based component, an asset-specific component, and a component related to PCI loans. The determination of each of these components involves significant judgment on a number of matters. Refer to pages 120–122, page 141 and Note 13 of JPMorgan Chase's 2018 Form 10-K for further information on these components, areas of judgment and methodologies used in establishing the Firm's allowance for credit losses; and refer to Allowance for credit losses on pages 67–68 and Note 12 of this Form 10-Q.

As noted in the discussion on page 141 of JPMorgan Chase's 2018 Form 10-K, the Firm's allowance for credit losses is sensitive to numerous factors, which may differ depending on the portfolio. Changes in economic conditions or in the Firm's assumptions and estimates could affect its estimate of probable credit losses inherent in the portfolio at the balance sheet date. The Firm uses its best judgment to assess these economic conditions and loss data in estimating the allowance for credit losses and these estimates are subject to periodic refinement based on changes to underlying external or Firm-specific historical data. Refer to Note 12 for further information.

To illustrate the potential magnitude of certain alternate judgments, the Firm estimates that changes in the following inputs would have the following effects on the Firm's modeled credit loss estimates as of September 30, 2019, without consideration of any offsetting or correlated effects of other inputs in the Firm's allowance for loan losses:

- A combined 5% decline in housing prices and a 100 basis point increase in unemployment rates from expectations could imply:
  - an increase to modeled credit loss estimates of approximately $250 million for PCI loans.
  - an increase to modeled annual credit loss estimates of approximately $50 million for residential real estate loans, excluding PCI loans.
- For credit card loans, a 100 basis point increase in unemployment rates from expectations could imply an increase to modeled annual credit loss estimates of approximately $800 million.
- An increase in probability of default ("PD") factors consistent with a one-notch downgrade in the Firm's internal risk ratings for its entire wholesale loan portfolio could imply an increase in the Firm's modeled credit loss estimates of approximately $1.7 billion.
- A 100 basis point increase in estimated loss given default ("LGD") for the Firm's entire wholesale loan portfolio could imply an increase in the Firm's modeled credit loss estimates of approximately $175 million.

The purpose of these sensitivity analyses is to provide an indication of the isolated impacts of hypothetical alternative assumptions on modeled loss estimates. The changes in the inputs presented above are not intended to imply management's expectation of future deterioration of those risk factors. In addition, these analyses are not intended to estimate changes in the overall allowance for loan losses, which would also be influenced by the judgment management applies to the modeled loss estimates to reflect the uncertainty and imprecision of these modeled loss estimates based on then-current circumstances and conditions.

It is difficult to estimate how potential changes in specific factors might affect the overall allowance for credit losses because management considers a variety of factors and inputs in estimating the allowance for credit losses. Changes in these factors and inputs may not occur at the same rate and may not be consistent across all geographies or product types, and changes in factors may be directionally inconsistent, such that improvement in one factor may offset deterioration in other factors. In addition, it is difficult to predict how changes in specific economic conditions or assumptions could affect borrower behavior or other factors considered by management in estimating the allowance for credit losses. Given the process the Firm follows and the judgments made in evaluating the risk factors related to its loss estimates, management believes that its current estimate of the allowance for credit losses is appropriate.

Fair value

Assets measured at fair value

The following table includes the Firm's assets measured at fair value and the portion of such assets that are classified within level 3 of the valuation hierarchy. Refer to Note 2 for further information.

September 30, 2019 (in billions, except ratios)	Total assets at fair value	Total level 3 assets
Trading–debt and equity instruments	$ 440.2	$ 4.4
Derivative receivables[(a)]	55.6	5.6
Trading assets	495.8	10.0
AFS securities	353.4	–
Loans	5.8	–
MSRs	4.4	4.4
Other	27.8	0.7
Total assets measured at fair value on a recurring basis	$ 887.2	$ 15.1
Total assets measured at fair value on a nonrecurring basis	6.4	1.0
Total assets measured at fair value	$ 893.6	$ 16.1
Total Firm assets	$ 2,764.7	
Level 3 assets as a percentage of total Firm assets[(a)]		0.6%
Level 3 assets as a percentage of total Firm assets at fair value[(a)]		1.8%

(a) For purposes of the table above, the derivative receivables total reflects the impact of netting adjustments; however, the $5.6 billion of derivative receivables classified as level 3 does not reflect the netting adjustment as such netting is not relevant to a presentation based on the transparency of inputs to the valuation of an asset. The level 3 balances would be reduced if netting were applied, including the netting benefit associated with cash collateral.

Valuation

Estimating fair value requires the application of judgment. The type and level of judgment required is largely dependent on the amount of observable market information available to the Firm. For instruments valued using internally developed valuation models and other valuation techniques that use significant unobservable inputs and are therefore classified within level 3 of the valuation hierarchy, judgments used to estimate fair value are more significant than those required when estimating the fair value of instruments classified within levels 1 and 2.

In arriving at an estimate of fair value for an instrument within level 3, management must first determine the appropriate valuation technique to use. Second, the lack of observability of certain significant inputs requires management to assess all relevant empirical data in deriving valuation inputs including, for example, transaction details, yield curves, interest rates, prepayment rates, default rates, volatilities, correlations, equity or debt prices, valuations of comparable instruments, foreign exchange rates and credit curves. Refer to Note 2 for a further discussion of the valuation of level 3 instruments, including unobservable inputs used.

For instruments classified in levels 2 and 3, management judgment must be applied to assess the appropriate level of valuation adjustments to reflect counterparty credit quality, the Firm's creditworthiness, market funding rates, liquidity considerations, unobservable parameters, and for portfolios that meet specified criteria, the size of the net open risk position. The judgments made are typically affected by the type of product and its specific contractual terms, and the level of liquidity for the product or within the market as a whole. Refer to Note 2 for a further discussion of valuation adjustments applied by the Firm.

Imprecision in estimating unobservable market inputs or other factors can affect the amount of gain or loss recorded for a particular position. Furthermore, while the Firm believes its valuation methods are appropriate and consistent with those of other market participants, the methods and assumptions used reflect management judgment and may vary across the Firm's businesses and portfolios.

The Firm uses various methodologies and assumptions in the determination of fair value. The use of methodologies or assumptions different than those used by the Firm could result in a different estimate of fair value at the reporting date. Refer to Note 2 for a detailed discussion of the Firm's valuation process and hierarchy, and its determination of fair value for individual financial instruments.

Goodwill impairment

Management applies significant judgment when testing goodwill for impairment. The goodwill associated with each business combination is allocated to the related reporting units for goodwill impairment testing. Refer to Goodwill impairment on page 142 of JPMorgan Chase's 2018 Form 10-K for a description of the significant valuation judgments associated with goodwill impairment.

Refer to Note 14 for additional information on goodwill, including the goodwill impairment assessment as of September 30, 2019.

Credit card rewards liability

The credit card rewards liability was $6.3 billion and $5.8 billion at September 30, 2019 and December 31, 2018, respectively, and is recorded in accounts payable and other liabilities on the Consolidated balance sheets. Refer to page 143 of JPMorgan Chase's 2018 Form 10-K for a description of the significant assumptions and judgments associated with the Firm's credit card rewards liability.

Income taxes

Refer to Income taxes on page 143 of JPMorgan Chase's 2018 Form 10-K for a description of the significant assumptions, judgments and interpretations associated with the accounting for income taxes.

Litigation reserves

Refer to Note 24 of this Form 10-Q, and Note 29 of JPMorgan Chase's 2018 Form 10-K for a description of the significant estimates and judgments associated with establishing litigation reserves.

Financial Accounting Standards Board ("FASB") Standards Adopted January 1, 2019

Standard	Summary of guidance	Effects on financial statements
Leases *Issued February 2016*	• Requires lessees to recognize all leases longer than twelve months on the Consolidated balance sheets as a lease liability with a corresponding right-of-use asset. • Requires lessees and lessors to classify most leases using principles similar to existing lease accounting, but eliminates the "bright line" classification tests. • Expands qualitative and quantitative leasing disclosures.	• Adopted January 1, 2019. • The Firm elected the available practical expedient to not reassess whether existing contracts contain a lease or whether classification or unamortized initial lease costs would be different under the new lease guidance. The Firm elected the modified retrospective transition method, through a cumulative-effect adjustment to retained earnings without revising prior periods. • Refer to Note 16 for further information.

FASB Standards Issued but not yet Adopted

Standard	Summary of guidance	Effects on financial statements
Financial instruments – credit losses *Issued June 2016*	• Replaces existing incurred loss impairment guidance and establishes a single allowance framework for financial assets carried at amortized cost, which will reflect management's estimate of credit losses over the full remaining expected life of the financial assets and will consider expected future changes in macroeconomic conditions. • Eliminates existing guidance for PCI loans, and requires recognition of the nonaccretable difference as an increase to the allowance for expected credit losses on financial assets purchased with more than insignificant credit deterioration since origination, with a corresponding increase in the recorded investment of the related loans. • Requires inclusion of expected recoveries, limited to the cumulative amount of prior write-offs, when estimating the allowance for credit losses for in scope financial assets (including collateral dependent assets). • Amends existing impairment guidance for AFS securities to incorporate an allowance, which will allow for reversals of credit impairments in the event that the credit of an issuer improves. • Requires a cumulative-effect adjustment to retained earnings as of the beginning of the reporting period of adoption.	• Required effective date: January 1, 2020.[a] • The Firm has established a Firmwide, cross-discipline governance structure, which provides implementation oversight. The Firm continues to test and refine its current expected credit loss models that satisfy the requirements of the new standard. Oversight and testing, as well as efforts to meet expanded disclosure requirements, will extend through the remainder of 2019. • The Firm expects that the allowance related to the Firm's loans and commitments will increase as it will cover credit losses over the full remaining expected life of the portfolios. The Firm currently intends to estimate losses over a two-year forecast period using the weighted-average of a range of macroeconomic scenarios (established on a Firmwide basis), and then revert to longer term historical loss experience to estimate losses over more extended periods. • The Firm currently expects the increase in the allowance to be in the range of $4-6 billion, primarily driven by Card. This estimate is subject to further refinement based on continuing reviews and approvals of models, methodologies and judgments. The ultimate impact will depend upon the nature and characteristics of the Firm's portfolio at the adoption date, the macroeconomic conditions and forecasts at that date, and other management judgments. • The Firm plans to adopt the new guidance on January 1, 2020.
Goodwill *Issued January 2017*	• Requires an impairment loss to be recognized when the estimated fair value of a reporting unit falls below its carrying value. • Eliminates the second condition in the current guidance that requires an impairment loss to be recognized only if the estimated implied fair value of the goodwill is below its carrying value.	• Required effective date: January 1, 2020.[a] • Based on current impairment test results, the Firm does not expect a material effect on the Consolidated Financial Statements. However, the impact of the new accounting guidance will depend on the performance of the reporting units and the market conditions at the time of adoption. • After adoption, the guidance may result in more frequent goodwill impairment losses due to the removal of the second condition. • The Firm plans to adopt the new guidance on January 1, 2020.

(a) Early adoption is permitted.

FORWARD-LOOKING STATEMENTS

From time to time, the Firm has made and will make forward-looking statements. These statements can be identified by the fact that they do not relate strictly to historical or current facts. Forward-looking statements often use words such as “anticipate,” “target,” “expect,” “estimate,” “intend,” “plan,” “goal,” “believe,” or other words of similar meaning. Forward-looking statements provide JPMorgan Chase’s current expectations or forecasts of future events, circumstances, results or aspirations. JPMorgan Chase’s disclosures in this Form 10-Q contain forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. The Firm also may make forward-looking statements in its other documents filed or furnished with the SEC. In addition, the Firm’s senior management may make forward-looking statements orally to investors, analysts, representatives of the media and others.

All forward-looking statements are, by their nature, subject to risks and uncertainties, many of which are beyond the Firm’s control. JPMorgan Chase’s actual future results may differ materially from those set forth in its forward-looking statements. While there is no assurance that any list of risks and uncertainties or risk factors is complete, below are certain factors which could cause actual results to differ from those in the forward-looking statements:

- Local, regional and global business, economic and political conditions and geopolitical events;
- Changes in laws and regulatory requirements, including capital and liquidity requirements affecting the Firm’s businesses, and the ability of the Firm to address those requirements;
- Heightened regulatory and governmental oversight and scrutiny of JPMorgan Chase’s business practices, including dealings with retail customers;
- Changes in trade, monetary and fiscal policies and laws;
- Changes in income tax laws and regulations;
- Securities and capital markets behavior, including changes in market liquidity and volatility;
- Changes in investor sentiment or consumer spending or savings behavior;
- Ability of the Firm to manage effectively its capital and liquidity, including approval of its capital plans by banking regulators;
- Changes in credit ratings assigned to the Firm or its subsidiaries;
- Damage to the Firm’s reputation;
- Ability of the Firm to appropriately address social and environmental concerns that may arise from its business activities;
- Ability of the Firm to deal effectively with an economic slowdown or other economic or market disruption, including, but not limited to, in the interest rate environment;
- Technology changes instituted by the Firm, its counterparties or competitors;
- The effectiveness of the Firm’s control agenda;
- Ability of the Firm to develop or discontinue products and services, and the extent to which products or services previously sold by the Firm (including but not limited to mortgages and asset-backed securities) require the Firm to incur liabilities or absorb losses not contemplated at their initiation or origination;
- Acceptance of the Firm’s new and existing products and services by the marketplace and the ability of the Firm to innovate and to increase market share;
- Ability of the Firm to attract and retain qualified employees;
- Ability of the Firm to control expenses;
- Competitive pressures;
- Changes in the credit quality of the Firm’s customers and counterparties;
- Adequacy of the Firm’s risk management framework, disclosure controls and procedures and internal control over financial reporting;
- Adverse judicial or regulatory proceedings;
- Changes in applicable accounting policies, including the introduction of new accounting standards;
- Ability of the Firm to determine accurate values of certain assets and liabilities;
- Occurrence of natural or man-made disasters or calamities or conflicts and the Firm’s ability to deal effectively with disruptions caused by the foregoing;
- Ability of the Firm to maintain the security of its financial, accounting, technology, data processing and other operational systems and facilities;
- Ability of the Firm to withstand disruptions that may be caused by any failure of its operational systems or those of third parties;
- Ability of the Firm to effectively defend itself against cyberattacks and other attempts by unauthorized parties to access information of the Firm or its customers or to disrupt the Firm’s systems; and
- The other risks and uncertainties detailed in Part I,

  Item 1A: Risk Factors in JPMorgan Chase’s 2018 Form 10-K.

Any forward-looking statements made by or on behalf of the Firm speak only as of the date they are made, and JPMorgan Chase does not undertake to update any forward-looking statements. The reader should, however, consult any further disclosures of a forward-looking nature the Firm may make in any subsequent Form 10-Ks, Form 10-Qs, or Current Reports on Form 8-K.

JPMorgan Chase & Co.
Consolidated statements of income (unaudited)

(in millions, except per share data)	Three months ended September 30, 2019	Three months ended September 30, 2018	Nine months ended September 30, 2019	Nine months ended September 30, 2018
Revenue				
Investment banking fees	**$ 1,967**	$ 1,832	**$ 5,658**	$ 5,736
Principal transactions	**3,449**	2,964	**11,239**	10,698
Lending- and deposit-related fees	**1,626**	1,542	**4,643**	4,514
Asset management, administration and commissions	**4,351**	4,310	**12,818**	12,923
Investment securities gains/(losses)	**78**	(46)	**135**	(371)
Mortgage fees and related income	**887**	262	**1,562**	1,051
Card income	**1,283**	1,328	**3,923**	3,623
Other income	**1,472**	1,160	**4,239**	4,041
Noninterest revenue	**15,113**	13,352	**44,217**	42,215
Interest income [(a)]	**21,121**	19,439	**64,113**	55,499
Interest expense [(a)]	**6,893**	5,531	**21,034**	14,794
Net interest income	**14,228**	13,908	**43,079**	40,705
Total net revenue	**29,341**	27,260	**87,296**	82,920
Provision for credit losses	**1,514**	948	**4,158**	3,323
Noninterest expense				
Compensation expense	**8,583**	8,108	**26,067**	25,308
Occupancy expense	**1,110**	1,014	**3,238**	2,883
Technology, communications and equipment expense	**2,494**	2,219	**7,236**	6,441
Professional and outside services	**2,056**	2,086	**6,307**	6,333
Marketing	**945**	798	**2,686**	2,396
Other expense	**1,234**	1,398	**3,624**	4,313
Total noninterest expense	**16,422**	15,623	**49,158**	47,674
Income before income tax expense	**11,405**	10,689	**33,980**	31,923
Income tax expense	**2,325**	2,309	**6,069**	6,515
Net income	**$ 9,080**	$ 8,380	**$ 27,911**	$ 25,408
Net income applicable to common stockholders	**$ 8,606**	$ 7,948	**$ 26,551**	$ 24,067
Net income per common share data				
Basic earnings per share	**$ 2.69**	$ 2.35	**$ 8.17**	$ 7.04
Diluted earnings per share	**2.68**	2.34	**8.15**	7.00
Weighted-average basic shares	**3,198.5**	3,376.1	**3,248.7**	3,416.5
Weighted-average diluted shares	**3,207.2**	3,394.3	**3,258.0**	3,436.2

(a) In the second quarter of 2019, the Firm implemented certain presentation changes that impacted interest income and interest expense, but had no effect on net interest income. These changes were applied retrospectively and, accordingly, prior period amounts were revised to conform with the current presentation. Refer to Note 6 for additional information.

The Notes to Consolidated Financial Statements (unaudited) are an integral part of these statements.

JPMorgan Chase & Co.
Consolidated statements of comprehensive income (unaudited)

	Three months ended September 30,		Nine months ended September 30,	
(in millions)	**2019**	2018	**2019**	2018
Net income	**$ 9,080**	$ 8,380	**$ 27,911**	$ 25,408
Other comprehensive income/(loss), after-tax				
Unrealized gains/(losses) on investment securities	**479**	(819)	**2,986**	(2,280)
Translation adjustments, net of hedges	**(165)**	(31)	**(90)**	84
Fair value hedges	**(1)**	34	**87**	(74)
Cash flow hedges	**195**	(88)	**430**	(327)
Defined benefit pension and OPEB plans	**46**	19	**123**	78
DVA on fair value option elected liabilities	**132**	(402)	**(229)**	125
Total other comprehensive income/(loss), after-tax	**686**	(1,287)	**3,307**	(2,394)
Comprehensive income	**$ 9,766**	$ 7,093	**$ 31,218**	$ 23,014

The Notes to Consolidated Financial Statements (unaudited) are an integral part of these statements.

JPMorgan Chase & Co.
Consolidated balance sheets (unaudited)

(in millions, except share data)	**September 30, 2019**	December 31, 2018
Assets		
Cash and due from banks	**$ 21,215**	$ 22,324
Deposits with banks	**235,382**	256,469
Federal funds sold and securities purchased under resale agreements (included **$13,705** and $13,235 at fair value)	**257,391**	321,588
Securities borrowed (included **$5,784** and $5,105 at fair value)	**138,336**	111,995
Trading assets (included assets pledged of **$138,827** and $89,073)	**495,875**	413,714
Investment securities (included **$353,421** and $230,394 at fair value and assets pledged of **$12,518** and $11,432)	**394,251**	261,828
Loans (included **$5,760** and $3,151 at fair value)	**945,218**	984,554
Allowance for loan losses	**(13,235)**	(13,445)
Loans, net of allowance for loan losses	**931,983**	971,109
Accrued interest and accounts receivable	**88,988**	73,200
Premises and equipment	**25,117**	14,934
Goodwill, MSRs and other intangible assets	**53,078**	54,349
Other assets (included **$8,916** and $9,630 at fair value and assets pledged of **$2,834** and $3,457)	**123,045**	121,022
Total assets[(a)]	**$ 2,764,661**	$ 2,622,532
Liabilities		
Deposits (included **$29,355** and $23,217 at fair value)	**$ 1,525,261**	$ 1,470,666
Federal funds purchased and securities loaned or sold under repurchase agreements (included **$933** and $935 at fair value)	**247,766**	182,320
Short-term borrowings (included **$6,497** and $7,130 at fair value)	**48,893**	69,276
Trading liabilities	**138,343**	144,773
Accounts payable and other liabilities (included **$2,411** and $3,269 at fair value)	**225,063**	196,710
Beneficial interests issued by consolidated VIEs (included **$39** and $28 at fair value)	**18,515**	20,241
Long-term debt (included **$71,957** and $54,886 at fair value)	**296,472**	282,031
Total liabilities[(a)]	**2,500,313**	2,366,017
Commitments and contingencies (refer to Notes 22, 23 and 24)		
Stockholders' equity		
Preferred stock ($1 par value; authorized 200,000,000 shares; issued **2,836,250** and 2,606,750 shares)	**28,363**	26,068
Common stock ($1 par value; authorized 9,000,000,000 shares; issued 4,104,933,895 shares)	**4,105**	4,105
Additional paid-in capital	**88,512**	89,162
Retained earnings	**217,888**	199,202
Accumulated other comprehensive income/(loss)	**1,800**	(1,507)
Shares held in restricted stock units ("RSU") Trust, at cost (472,953 shares)	**(21)**	(21)
Treasury stock, at cost (968,448,971 and 829,167,674 shares)	**(76,299)**	(60,494)
Total stockholders' equity	**264,348**	256,515
Total liabilities and stockholders' equity	**$ 2,764,661**	$ 2,622,532

(a) The following table presents information on assets and liabilities related to VIEs that are consolidated by the Firm at September 30, 2019, and December 31, 2018. The assets of the consolidated VIEs are used to settle the liabilities of those entities. The holders of the beneficial interests generally do not have recourse to the general credit of JPMorgan Chase. The assets and liabilities in the table below include third-party assets and liabilities of consolidated VIEs and exclude intercompany balances that eliminate in consolidation. Refer to Note 13 for a further discussion.

(in millions)	**September 30, 2019**	December 31, 2018
Assets		
Trading assets	**$ 1,461**	$ 1,966
Loans	**53,022**	59,456
All other assets	**974**	1,013
Total assets	**$ 55,457**	$ 62,435
Liabilities		
Beneficial interests issued by consolidated VIEs	**$ 18,515**	$ 20,241
All other liabilities	**301**	312
Total liabilities	**$ 18,816**	$ 20,553

The Notes to Consolidated Financial Statements (unaudited) are an integral part of these statements.

JPMorgan Chase & Co.
Consolidated statements of changes in stockholders’ equity (unaudited)

	Three months ended September 30,		Nine months ended September 30,	
(in millions, except per share data)	**2019**	2018	**2019**	2018
Preferred stock				
Balance at the beginning of the period	**$ 26,993**	$ 26,068	**$ 26,068**	$ 26,068
Issuance	**2,250**	1,696	**4,100**	1,696
Redemption	**(880)**	–	**(1,805)**	–
Balance at September 30	**28,363**	27,764	**28,363**	27,764
Common stock				
Balance at the beginning and end of the period	**4,105**	4,105	**4,105**	4,105
Additional paid-in capital				
Balance at the beginning of the period	**88,359**	89,392	**89,162**	90,579
Shares issued and commitments to issue common stock for employee shared-based compensation awards, and related tax effects	**156**	179	**(604)**	(897)
Other	**(3)**	(238)	**(46)**	(349)
Balance at September 30	**88,512**	89,333	**88,512**	89,333
Retained earnings				
Balance at the beginning of the period	**212,093**	189,881	**199,202**	177,676
Cumulative effect of changes in accounting principles	**–**	–	**62**	(183)
Net income	**9,080**	8,380	**27,911**	25,408
Dividends declared:				
Preferred stock	**(423)**	(379)	**(1,201)**	(1,167)
Common stock (**$0.90** and $0.80 per share and **$2.50** and $1.92 per share, respectively)	**(2,862)**	(2,702)	**(8,086)**	(6,554)
Balance at September 30	**217,888**	195,180	**217,888**	195,180
Accumulated other comprehensive income/(loss)				
Balance at the beginning of the period	**1,114**	(1,138)	**(1,507)**	(119)
Cumulative effect of changes in accounting principles	**–**	–	**–**	88
Other comprehensive income/(loss), after-tax	**686**	(1,287)	**3,307**	(2,394)
Balance at September 30	**1,800**	(2,425)	**1,800**	(2,425)
Shares held in RSU Trust, at cost				
Balance at the beginning and end of the period	**(21)**	(21)	**(21)**	(21)
Treasury stock, at cost				
Balance at the beginning of the period	**(69,428)**	(50,829)	**(60,494)**	(42,595)
Repurchase	**(6,949)**	(4,416)	**(17,250)**	(14,055)
Reissuance	**78**	265	**1,445**	1,670
Balance at September 30	**(76,299)**	(54,980)	**(76,299)**	(54,980)
Total stockholders’ equity	**$ 264,348**	$ 258,956	**$ 264,348**	$ 258,956

The Notes to Consolidated Financial Statements (unaudited) are an integral part of these statements.

JPMorgan Chase & Co.
Consolidated statements of cash flows (unaudited)

(in millions)	Nine months ended September 30, 2019	2018
Operating activities		
Net income	**$ 27,911**	$ 25,408
Adjustments to reconcile net income to net cash used in operating activities:		
Provision for credit losses	**4,158**	3,323
Depreciation and amortization	**6,229**	5,716
Deferred tax (benefit)/expense	**(440)**	(323)
Other	**1,645**	2,179
Originations and purchases of loans held-for-sale	**(53,934)**	(68,235)
Proceeds from sales, securitizations and paydowns of loans held-for-sale	**60,510**	68,214
Net change in:		
Trading assets	**(96,125)**	(44,427)
Securities borrowed	**(26,162)**	(17,344)
Accrued interest and accounts receivable	**(16,089)**	(11,335)
Other assets	**(21,181)**	2,909
Trading liabilities	**12,774**	21,580
Accounts payable and other liabilities	**19,661**	26,677
Other operating adjustments	**4,004**	(577)
Net cash provided by/(used in) operating activities	**(77,039)**	13,765
Investing activities		
Net change in:		
Federal funds sold and securities purchased under resale agreements	**64,207**	(19,259)
Held-to-maturity securities:		
Proceeds from paydowns and maturities	**2,239**	2,268
Purchases	**(11,682)**	(8,613)
Available-for-sale securities:		
Proceeds from paydowns and maturities	**41,378**	29,618
Proceeds from sales	**43,460**	34,322
Purchases	**(200,262)**	(46,530)
Proceeds from sales and securitizations of loans held-for-investment	**52,739**	20,154
Other changes in loans, net	**(25,977)**	(49,755)
All other investing activities, net	**(4,283)**	(1,987)
Net cash (used in) investing activities	**(38,181)**	(39,782)
Financing activities		
Net change in:		
Deposits	**77,147**	15,274
Federal funds purchased and securities loaned or sold under repurchase agreements	**65,428**	22,719
Short-term borrowings	**(20,577)**	12,974
Beneficial interests issued by consolidated VIEs	**5,017**	975
Proceeds from long-term borrowings	**45,155**	54,842
Payments of long-term borrowings	**(51,936)**	(69,636)
Proceeds from issuance of preferred stock	**4,100**	1,655
Redemption of preferred stock	**(1,805)**	–
Treasury stock repurchased	**(17,250)**	(14,055)
Dividends paid	**(9,056)**	(6,989)
All other financing activities, net	**(217)**	(1,440)
Net cash provided by financing activities	**96,006**	16,319
Effect of exchange rate changes on cash and due from banks and deposits with banks	**(2,982)**	(2,509)
Net decrease in cash and due from banks and deposits with banks	**(22,196)**	(12,207)
Cash and due from banks and deposits with banks at the beginning of the period	**278,793**	431,304
Cash and due from banks and deposits with banks at the end of the period	**$ 256,597**	$ 419,097
Cash interest paid	**$ 20,790**	$ 15,144
Cash income taxes paid, net	**3,478**	2,197

The Notes to Consolidated Financial Statements (unaudited) are an integral part of these statements.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (unaudited)

Note 1 – Basis of presentation

JPMorgan Chase & Co. ("JPMorgan Chase" or "the Firm"), a financial holding company incorporated under Delaware law in 1968, is a leading global financial services firm and one of the largest banking institutions in the U.S., with operations worldwide. The Firm is a leader in investment banking, financial services for consumers and small businesses, commercial banking, financial transaction processing and asset management. Refer to Note 25 for a further discussion of the Firm's business segments.

The accounting and financial reporting policies of JPMorgan Chase and its subsidiaries conform to U.S. GAAP. Additionally, where applicable, the policies conform to the accounting and reporting guidelines prescribed by regulatory authorities.

The unaudited Consolidated Financial Statements prepared in conformity with U.S. GAAP require management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenue and expense, and the disclosures of contingent assets and liabilities. Actual results could be different from these estimates. In the opinion of management, all normal, recurring adjustments have been included such that this interim financial information is fairly presented.

These unaudited Consolidated Financial Statements should be read in conjunction with the audited Consolidated Financial Statements, and related notes thereto, included in JPMorgan Chase's 2018 Form 10-K.

Certain amounts reported in prior periods have been reclassified to conform with the current presentation.

Consolidation

The Consolidated Financial Statements include the accounts of JPMorgan Chase and other entities in which the Firm has a controlling financial interest. All material intercompany balances and transactions have been eliminated.

Assets held for clients in an agency or fiduciary capacity by the Firm are not assets of JPMorgan Chase and are not included on the Consolidated balance sheets.

The Firm determines whether it has a controlling financial interest in an entity by first evaluating whether the entity is a voting interest entity or a variable interest entity.

Refer to Notes 1 and 14 of JPMorgan Chase's 2018 Form 10-K for a further description of JPMorgan Chase's accounting policies regarding consolidation.

Offsetting assets and liabilities

U.S. GAAP permits entities to present derivative receivables and derivative payables with the same counterparty and the related cash collateral receivables and payables on a net basis on the Consolidated balance sheets when a legally enforceable master netting agreement exists. U.S. GAAP also permits securities financing activities to be presented on a net basis when specified conditions are met, including the existence of a legally enforceable master netting agreement. The Firm has elected to net such balances when the specified conditions are met. Refer to Note 1 of JPMorgan Chase's 2018 Form 10-K for further information on offsetting assets and liabilities.

Income tax expense

The Firm's effective tax rate was 20.4% and 17.9% in the three and nine months ended September 30, 2019, respectively, and 21.6% and 20.4% in the respective 2018 periods. For the nine months ended September 30, 2019, the effective tax rate reflected the recognition of $1.0 billion in tax benefits related to the resolution of certain tax audits, which reduced the Firm's effective tax rate by 3.0%. Refer to Note 24 of JPMorgan Chase's 2018 Form 10-K for further information.

Note 2 – Fair value measurement

Refer to Note 2 of JPMorgan Chase's 2018 Form 10-K 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.

The following table presents the assets and liabilities reported at fair value as of September 30, 2019, and December 31, 2018, by major product category and fair value hierarchy.

Assets and liabilities measured at fair value on a recurring basis

	Fair value hierarchy				
September 30, 2019 (in millions)	Level 1	Level 2	Level 3	Derivative netting adjustments[f]	Total fair value
Federal funds sold and securities purchased under resale agreements	$ –	$ 13,705	$ –	$ –	$ 13,705
Securities borrowed	–	5,784	–	–	5,784
Trading assets:					
Debt instruments:					
Mortgage-backed securities:					
U.S. GSEs and government agencies[a]	–	70,617	811	–	71,428
Residential – nonagency	–	2,253	24	–	2,277
Commercial – nonagency	–	1,613	5	–	1,618
Total mortgage-backed securities	–	74,483	840	–	75,323
U.S. Treasury, GSEs and government agencies[a]	76,953	9,446	–	–	86,399
Obligations of U.S. states and municipalities	–	6,229	627	–	6,856
Certificates of deposit, bankers' acceptances and commercial paper	–	2,180	–	–	2,180
Non-U.S. government debt securities	38,162	36,634	146	–	74,942
Corporate debt securities	–	20,461	484	–	20,945
Loans[b]	–	43,308	1,746	–	45,054
Asset-backed securities	–	2,996	38	–	3,034
Total debt instruments	115,115	195,737	3,881	–	314,733
Equity securities	100,829	249	170	–	101,248
Physical commodities[c]	7,690	3,075	–	–	10,765
Other	–	13,172	332	–	13,504
Total debt and equity instruments[d]	223,634	212,233	4,383	–	440,250
Derivative receivables:					
Interest rate	1,312	372,834	1,787	(347,426)	28,507
Credit	–	15,072	645	(14,879)	838
Foreign exchange	3,681	158,893	558	(150,451)	12,681
Equity	–	44,064	2,314	(38,969)	7,409
Commodity	–	20,969	269	(15,096)	6,142
Total derivative receivables	4,993	611,832	5,573	(566,821)	55,577
Total trading assets[e]	228,627	824,065	9,956	(566,821)	495,827
Available-for-sale securities:					
Mortgage-backed securities:					
U.S. GSEs and government agencies[a]	–	105,581	–	–	105,581
Residential – nonagency	–	12,901	1	–	12,902
Commercial – nonagency	–	5,324	–	–	5,324
Total mortgage-backed securities	–	123,806	1	–	123,807
U.S. Treasury and government agencies	141,529	–	–	–	141,529
Obligations of U.S. states and municipalities	–	31,064	–	–	31,064
Certificates of deposit	–	74	–	–	74
Non-U.S. government debt securities	13,604	8,554	–	–	22,158
Corporate debt securities	–	1,634	–	–	1,634
Asset-backed securities:					
Collateralized loan obligations	–	27,908	–	–	27,908
Other	–	5,247	–	–	5,247
Total available-for-sale securities	155,133	198,287	1	–	353,421
Loans	–	5,759	1	–	5,760
Mortgage servicing rights	–	–	4,419	–	4,419
Other assets[e]	7,467	37	746	–	8,250
Total assets measured at fair value on a recurring basis	$ 391,227	$ 1,047,637	$ 15,123	$ (566,821)	$ 887,166
Deposits	$ –	$ 25,719	$ 3,636	$ –	$ 29,355
Federal funds purchased and securities loaned or sold under repurchase agreements	–	933	–	–	933
Short-term borrowings	–	4,496	2,001	–	6,497
Trading liabilities:					
Debt and equity instruments[d]	66,515	23,970	68	–	90,553
Derivative payables:					
Interest rate	1,206	335,401	2,106	(328,490)	10,223
Credit	–	16,100	962	(14,903)	2,159
Foreign exchange	3,583	160,760	1,399	(150,726)	15,016
Equity	–	45,109	5,782	(40,288)	10,603
Commodity	–	25,495	316	(16,022)	9,789
Total derivative payables	4,789	582,865	10,565	(550,429)	47,790
Total trading liabilities	71,304	606,835	10,633	(550,429)	138,343
Accounts payable and other liabilities	2,355	37	19	–	2,411
Beneficial interests issued by consolidated VIEs	–	39	–	–	39
Long-term debt	–	49,608	22,349	–	71,957
Total liabilities measured at fair value on a recurring basis	$ 73,659	$ 687,667	$ 38,638	$ (550,429)	$ 249,535

December 31, 2018 (in millions)	Fair value hierarchy Level 1	Level 2	Level 3	Derivative netting adjustments[f]	Total fair value
Federal funds sold and securities purchased under resale agreements	$ –	$ 13,235	$ –	$ –	$ 13,235
Securities borrowed	–	5,105	–	–	5,105
Trading assets:					
Debt instruments:					
Mortgage-backed securities:					
U.S. GSEs and government agencies[a]	–	76,249	549	–	76,798
Residential – nonagency	–	1,798	64	–	1,862
Commercial – nonagency	–	1,501	11	–	1,512
Total mortgage-backed securities	–	79,548	624	–	80,172
U.S. Treasury, GSEs and government agencies[a]	51,477	7,702	–	–	59,179
Obligations of U.S. states and municipalities	–	7,121	689	–	7,810
Certificates of deposit, bankers' acceptances and commercial paper	–	1,214	–	–	1,214
Non-U.S. government debt securities	27,878	27,056	155	–	55,089
Corporate debt securities	–	18,655	334	–	18,989
Loans[b]	–	40,047	1,706	–	41,753
Asset-backed securities	–	2,756	127	–	2,883
Total debt instruments	79,355	184,099	3,635	–	267,089
Equity securities	71,119	482	232	–	71,833
Physical commodities[c]	5,182	1,855	–	–	7,037
Other	–	13,192	301	–	13,493
Total debt and equity instruments[d]	155,656	199,628	4,168	–	359,452
Derivative receivables:					
Interest rate	682	266,380	1,642	(245,490)	23,214
Credit	–	19,235	860	(19,483)	612
Foreign exchange	771	166,238	676	(154,235)	13,450
Equity	–	46,777	2,508	(39,339)	9,946
Commodity	–	20,339	131	(13,479)	6,991
Total derivative receivables	1,453	518,969	5,817	(472,026)	54,213
Total trading assets[e]	157,109	718,597	9,985	(472,026)	413,665
Available-for-sale securities:					
Mortgage-backed securities:					
U.S. GSEs and government agencies[a]	–	68,646	–	–	68,646
Residential – nonagency	–	8,519	1	–	8,520
Commercial – nonagency	–	6,654	–	–	6,654
Total mortgage-backed securities	–	83,819	1	–	83,820
U.S. Treasury and government agencies	56,059	–	–	–	56,059
Obligations of U.S. states and municipalities	–	37,723	–	–	37,723
Certificates of deposit	–	75	–	–	75
Non-U.S. government debt securities	15,313	8,789	–	–	24,102
Corporate debt securities	–	1,918	–	–	1,918
Asset-backed securities:					
Collateralized loan obligations	–	19,437	–	–	19,437
Other	–	7,260	–	–	7,260
Total available-for-sale securities	71,372	159,021	1	–	230,394
Loans	–	3,029	122	–	3,151
Mortgage servicing rights	–	–	6,130	–	6,130
Other assets[e]	7,810	195	927	–	8,932
Total assets measured at fair value on a recurring basis	$ 236,291	$ 899,182	$ 17,165	$ (472,026)	$ 680,612
Deposits	$ –	$ 19,048	$ 4,169	$ –	$ 23,217
Federal funds purchased and securities loaned or sold under repurchase agreements	–	935	–	–	935
Short-term borrowings	–	5,607	1,523	–	7,130
Trading liabilities:					
Debt and equity instruments[d]	80,199	22,755	50	–	103,004
Derivative payables:					
Interest rate	1,526	239,576	1,680	(234,998)	7,784
Credit	–	19,309	967	(18,609)	1,667
Foreign exchange	695	163,549	973	(152,432)	12,785
Equity	–	46,462	4,733	(41,034)	10,161
Commodity	–	21,158	1,260	(13,046)	9,372
Total derivative payables	2,221	490,054	9,613	(460,119)	41,769
Total trading liabilities	82,420	512,809	9,663	(460,119)	144,773
Accounts payable and other liabilities	3,063	196	10	–	3,269
Beneficial interests issued by consolidated VIEs	–	27	1	–	28
Long-term debt	–	35,468	19,418	–	54,886
Total liabilities measured at fair value on a recurring basis	$ 85,483	$ 574,090	$ 34,784	$ (460,119)	$ 234,238

(a) At September 30, 2019, and December 31, 2018, included total U.S. GSE obligations of $133.6 billion and $92.3 billion, respectively, which were mortgage-related.

(b) At September 30, 2019, and December 31, 2018, included within trading loans were $16.1 billion and $13.2 billion, respectively, of residential first-lien mortgages, and $4.2 billion and $2.3 billion, respectively, of commercial first-lien mortgages. Residential mortgage loans include conforming mortgage loans originated with the intent to sell to U.S. GSEs and government agencies of $10.3 billion and $7.6 billion, respectively.

(c) Physical commodities inventories are generally accounted for at the lower of cost or net realizable value. "Net realizable value" is a term defined in U.S. GAAP as not exceeding fair value less costs to sell ("transaction costs"). Transaction costs for the Firm's physical commodities inventories are either not applicable or immaterial to the value of the inventory. Therefore, net realizable value approximates fair value for the Firm's physical commodities

inventories. When fair value hedging has been applied (or when net realizable value is below cost), the carrying value of physical commodities approximates fair value, because under fair value hedge accounting, the cost basis is adjusted for changes in fair value. Refer to Note 4 for a further discussion of the Firm's hedge accounting relationships. To provide consistent fair value disclosure information, all physical commodities inventories have been included in each period presented.

(d) Balances reflect the reduction of securities owned (long positions) by the amount of identical securities sold but not yet purchased (short positions).

(e) Certain investments that are measured at fair value using the net asset value per share (or its equivalent) as a practical expedient are not required to be classified in the fair value hierarchy. At September 30, 2019, and December 31, 2018, the fair values of these investments, which include certain hedge funds, private equity funds, real estate and other funds, were $714 million and $747 million, respectively. Included in these balances at September 30, 2019, and December 31, 2018, were trading assets of $48 million and $49 million, respectively, and other assets of $666 million and $698 million, respectively.

(f) As permitted under U.S. GAAP, the Firm has elected to net derivative receivables and derivative payables and the related cash collateral received and paid when a legally enforceable master netting agreement exists. The level 3 balances would be reduced if netting were applied, including the netting benefit associated with cash collateral.

Level 3 valuations

Refer to Note 2 of JPMorgan Chase's 2018 Form 10-K for further information on the Firm's valuation process and a detailed discussion of the determination of fair value for individual financial instruments.

The following table presents the Firm's primary level 3 financial instruments, the valuation techniques used to measure the fair value of those financial instruments, the significant unobservable inputs, the range of values for those inputs and, for certain instruments, the weighted averages of such inputs. While the determination to classify an instrument within level 3 is based on the significance of the unobservable inputs to the overall fair value measurement, level 3 financial instruments typically include observable components (that is, components that are actively quoted and can be validated to external sources) in addition to the unobservable components. The level 1 and/ or level 2 inputs are not included in the table. In addition, the Firm manages the risk of the observable components of level 3 financial instruments using securities and derivative positions that are classified within levels 1 or 2 of the fair value hierarchy.

The range of values presented in the table is representative of the highest and lowest level input used to value the significant groups of instruments within a product/ instrument classification. Where provided, the weighted averages of the input values presented in the table are calculated based on the fair value of the instruments that the input is being used to value.

In the Firm's view, the input range and the weighted average value do not reflect the degree of input uncertainty or an assessment of the reasonableness of the Firm's estimates and assumptions. Rather, they reflect the characteristics of the various instruments held by the Firm and the relative distribution of instruments within the range of characteristics. For example, two option contracts may have similar levels of market risk exposure and valuation uncertainty, but may have significantly different implied volatility levels because the option contracts have different underlyings, tenors, or strike prices. The input range and weighted average values will therefore vary from period-to-period and parameter-to-parameter based on the characteristics of the instruments held by the Firm at each balance sheet date.

For the Firm's derivatives and structured notes positions classified within level 3 at September 30, 2019, interest rate correlation inputs used in estimating fair value were concentrated towards the upper end of the range; equity correlation, equity-FX, and equity-IR correlation inputs were concentrated in the middle of the range; commodity correlation inputs were concentrated in the middle of the range; credit correlation inputs were concentrated towards the lower end of the range; and the interest rate-foreign exchange ("IR-FX") correlation inputs were distributed across the range. In addition, the interest rate spread volatility inputs used in estimating fair value were distributed across the range; equity volatilities and commodity volatilities were concentrated towards the lower end of the range; and forward commodity prices used in estimating the fair value of commodity derivatives were concentrated towards the upper end of the range. Prepayment speed inputs used in estimating the fair value of interest rate derivatives were concentrated towards the lower end of the range. Recovery rate inputs used in estimating the fair value of credit derivatives were distributed across the range; credit spreads and conditional default rates were concentrated towards the lower end of the range; loss severity inputs were concentrated towards the upper end of the range and price inputs were concentrated towards the lower end of the range.

Level 3 inputs[(a)]

September 30, 2019							
Product/Instrument	Fair value (in millions)	Principal valuation technique	Unobservable inputs[(g)]	Range of input values			Weighted average
Residential mortgage-backed securities and loans[(b)]	$ 1,132	Discounted cash flows	Yield	0%	-	19%	5%
			Prepayment speed	0%	-	22%	14%
			Conditional default rate	0%	-	4%	1%
			Loss severity	0%	-	100%	2%
Commercial mortgage-backed securities and loans[(c)]	147	Market comparables	Price	$ 0	-	$ 102	$ 80
Obligations of U.S. states and municipalities	627	Market comparables	Price	$ 68	-	$ 100	$ 97
Corporate debt securities	484	Market comparables	Price	$ 4	-	$ 116	$ 79
Loans[(d)]	194	Discounted cash flows	Yield	5%	-	22%	7%
	1,115	Market comparables	Price	$ 12	-	$ 101	$ 78
Asset-backed securities	38	Market comparables	Price	$ 1	-	$ 100	$ 53
Net interest rate derivatives	(388)	Option pricing	Interest rate spread volatility	20 bps	-	30 bps	
			Interest rate correlation	(28)%	-	96%	
			IR-FX correlation	53%	-	60%	
	69	Discounted cash flows	Prepayment speed	4%	-	30%	
Net credit derivatives	(353)	Discounted cash flows	Credit correlation	30%	-	60%	
			Credit spread	4 bps	-	1,315 bps	
			Recovery rate	15%	-	70%	
			Conditional default rate	2%	-	93%	
			Loss severity		100%		
	36	Market comparables	Price	$ 1	-	$ 115	
Net foreign exchange derivatives	(679)	Option pricing	IR-FX correlation	(58)%	-	60%	
	(162)	Discounted cash flows	Prepayment speed		9%		
Net equity derivatives	(3,468)	Option pricing	Equity volatility	11%	-	82%	
			Equity correlation	10%	-	98%	
			Equity-FX correlation	(81)%	-	59%	
			Equity-IR correlation	25%	-	60%	
Net commodity derivatives	(47)	Option pricing	Forward commodity price	$ 30	-	$ 61 per barrel	
			Commodity volatility	5%	-	111%	
			Commodity correlation	(48)%	-	95%	
MSRs	4,419	Discounted cash flows	Refer to Note 14				
Other assets	303	Discounted cash flows	Credit spread		45 bps		45 bps
			Yield		12%		12%
	775	Market comparables	Price	$ 18	-	$ 115	$ 36
Long-term debt, short-term borrowings, and deposits[(e)]	27,986	Option pricing	Interest rate spread volatility	20 bps	-	30 bps	
			Interest rate correlation	(28)%	-	96%	
			IR-FX correlation	(58)%	-	60%	
			Equity correlation	10%	-	98%	
			Equity-FX correlation	(81)%	-	59%	
			Equity-IR correlation	25%	-	60%	
Other level 3 assets and liabilities, net[(f)]	229						

(a) The categories presented in the table have been aggregated based upon the product type, which may differ from their classification on the Consolidated balance sheets. Furthermore, the inputs presented for each valuation technique in the table are, in some cases, not applicable to every instrument valued using the technique as the characteristics of the instruments can differ.
(b) Comprises U.S. GSEs and government agency securities of $811 million, nonagency securities of $24 million and trading loans of $297 million.
(c) Comprises nonagency securities of $5 million, trading loans of $141 million and non-trading loans of $1 million.
(d) Comprises trading loans.
(e) Long-term debt, short-term borrowings and deposits include structured notes issued by the Firm that are financial instruments that typically contain embedded derivatives. The estimation of the fair value of structured notes includes the derivative features embedded within the instrument. The significant unobservable inputs are broadly consistent with those presented for derivative receivables.
(f) Includes level 3 assets and liabilities that are insignificant both individually and in aggregate.
(g) Price is a significant unobservable input for certain instruments. When quoted market prices are not readily available, reliance is generally placed on price-based internal valuation techniques. The price input is expressed assuming a par value of $100.

Changes in and ranges of unobservable inputs

Refer to Note 2 of JPMorgan Chase's 2018 Form 10-K for a discussion of the impact on fair value of changes in unobservable inputs and the relationships between unobservable inputs as well as a description of attributes of the underlying instruments and external market factors that affect the range of inputs used in the valuation of the Firm's positions.

Changes in level 3 recurring fair value measurements

The following tables include a rollforward of the Consolidated balance sheets amounts (including changes in fair value) for financial instruments classified by the Firm within level 3 of the fair value hierarchy for the three and nine months ended September 30, 2019 and 2018. When a determination is made to classify a financial instrument within level 3, the determination is based on the significance of the unobservable inputs to the overall fair value measurement. However, level 3 financial instruments typically include, in addition to the unobservable or level 3 components, observable components (that is, components that are actively quoted and can be validated to external sources); accordingly, the gains and losses in the table below include changes in fair value due in part to observable factors that are part of the valuation methodology. Also, the Firm risk-manages the observable components of level 3 financial instruments using securities and derivative positions that are classified within level 1 or 2 of the fair value hierarchy; as these level 1 and level 2 risk management instruments are not included below, the gains or losses in the following tables do not reflect the effect of the Firm's risk management activities related to such level 3 instruments.

Three months ended September 30, 2019 (in millions)	Fair value measurements using significant unobservable inputs								
	Fair value at July 1, 2019	Total realized/ unrealized gains/ (losses)	Purchases[(f)]	Sales	Settlements[(g)]	Transfers into level 3[(h)]	Transfers (out of) level 3[(h)]	Fair value at September 30, 2019	Change in unrealized gains/ (losses) related to financial instruments held at September 30, 2019
Assets:[(a)]									
Trading assets:									
Debt instruments:									
Mortgage-backed securities:									
U.S. GSEs and government agencies	$ 617	$ (71)	$ 424	$ (104)	$ (45)	$ –	$ (10)	$ 811	$ (70)
Residential – nonagency	42	–	2	(3)	–	–	(17)	24	(1)
Commercial – nonagency	9	–	3	(5)	–	–	(2)	5	–
Total mortgage-backed securities	668	(71)	429	(112)	(45)	–	(29)	840	(71)
U.S. Treasury, GSEs and government agencies	–	–	–	–	–	–	–	–	–
Obligations of U.S. states and municipalities	680	(2)	27	(77)	(1)	–	–	627	(2)
Non-U.S. government debt securities	190	(1)	40	(74)	–	3	(12)	146	(1)
Corporate debt securities	562	45	56	(167)	–	17	(29)	484	3
Loans	1,778	(44)	152	(82)	(132)	211	(137)	1,746	(46)
Asset-backed securities	33	–	11	(2)	(2)	3	(5)	38	(2)
Total debt instruments	3,911	(73)	715	(514)	(180)	234	(212)	3,881	(119)
Equity securities	147	(14)	10	(10)	–	46	(9)	170	(16)
Other	311	18	35	(15)	(15)	–	(2)	332	23
Total trading assets – debt and equity instruments	4,369	(69) (c)	760	(539)	(195)	280	(223)	4,383	(112) (c)
Net derivative receivables:[(b)]									
Interest rate	(544)	88	39	(15)	53	10	50	(319)	(15)
Credit	(232)	(65)	3	(3)	(23)	3	–	(317)	(68)
Foreign exchange	(193)	(653)	2	(1)	(1)	6	(1)	(841)	(657)
Equity	(2,560)	(382)	174	(118)	(377)	(203)	(2)	(3,468)	(362)
Commodity	(908)	8	22	(69)	6	18	876	(47)	40
Total net derivative receivables	(4,437)	(1,004) (c)	240	(206)	(342)	(166)	923	(4,992)	(1,062) (c)
Available-for-sale securities:									
Mortgage-backed securities	–	–	1	–	–	–	–	1	–
Asset-backed securities	–	–	–	–	–	–	–	–	–
Total available-for-sale securities	–	–	1	–	–	–	–	1	–
Loans	5	–	–	–	(4)	–	–	1	–
Mortgage servicing rights	5,093	(447) (d)	388	(359)	(256)	–	–	4,419	(447) (d)
Other assets	861	(56) (c)	19	(72)	(6)	–	–	746	(56) (c)

Three months ended September 30, 2019 (in millions)	Fair value measurements using significant unobservable inputs									
	Fair value at July 1, 2019	Total realized/ unrealized (gains)/ losses	Purchases	Sales	Issuances	Settlements[(g)]	Transfers into level 3[(h)]	Transfers (out of) level 3[(h)]	Fair value at September 30, 2019	Change in unrealized (gains)/ losses related to financial instruments held at September 30, 2019
Liabilities:[(a)]										
Deposits	$ 4,066	$ –	$ –	$ –	$ 153	$ (188)	$ 12	$ (407)	$ 3,636	$ 16 (c)(e)
Short-term borrowings	2,052	24 (c)(e)	–	–	949	(1,040)	17	(1)	2,001	28 (c)(e)
Trading liabilities – debt and equity instruments	45	–	(5)	25	–	1	2	–	68	–
Accounts payable and other liabilities	92	(6) (c)	(71)	4	–	–	–	–	19	(2) (c)
Beneficial interests issued by consolidated VIEs	–	–	–	–	–	–	–	–	–	–
Long-term debt	21,863	187 (c)(e)	–	–	2,230	(1,758)	49	(222)	22,349	89 (c)(e)

Three months ended September 30, 2018 (in millions)	Fair value measurements using significant unobservable inputs								Change in unrealized gains/(losses) related to financial instruments held at September 30, 2018
	Fair value at July 1, 2018	Total realized/unrealized gains/(losses)	Purchases[f]	Sales	Settlements[g]	Transfers into level 3[h]	Transfers (out of) level 3[h]	Fair value at September 30, 2018	
Assets:[a]									
Trading assets:									
Debt instruments:									
Mortgage-backed securities:									
U.S. GSEs and government agencies	$ 478	$ 2	$ 14	$ (28)	$ (17)	$ 83	$ (3)	$ 529	$ –
Residential – nonagency	87	1	–	(6)	(3)	18	(20)	77	1
Commercial – nonagency	18	(1)	–	–		9	(13)	13	(1)
Total mortgage-backed securities	583	2	14	(34)	(20)	110	(36)	619	–
U.S. Treasury, GSEs and government agencies	–	–	–	–	–	–	–	–	–
Obligations of U.S. states and municipalities	736	8	26	(70)	(1)	–	–	699	7
Non-U.S. government debt securities	183	(9)	44	(29)	(2)	1	(24)	164	(9)
Corporate debt securities	274	(2)	156	(87)	(4)	82	(24)	395	(3)
Loans	1,986	17	188	(146)	(199)	48	(361)	1,533	3
Asset-backed securities	87	6	5	(7)	(13)	5	(7)	76	3
Total debt instruments	3,849	22	433	(373)	(239)	246	(452)	3,486	1
Equity securities	288	20	6	(48)		82	(19)	329	(18)
Other	406	30	13	–	(37)	2	(1)	413	10
Total trading assets – debt and equity instruments	4,543	72 (c)	452	(421)	(276)	330	(472)	4,228	(7) (c)
Net derivative receivables:[b]									
Interest rate	489	236	28	(22)	(101)	68	(7)	691	216
Credit	(24)	(19)	1	–	47	6	16	27	(15)
Foreign exchange	(245)	(56)	29	(7)	(49)	(2)	28	(302)	(54)
Equity	(2,578)	(94)	643	(635)	622	(251)	16	(2,277)	(121)
Commodity	(752)	318	–	–	(113)	15	7	(525)	138
Total net derivative receivables	(3,110)	385 (c)	701	(664)	406	(164)	60	(2,386)	164 (c)
Available-for-sale securities:									
Mortgage-backed securities	1	–	–	–	–	–	–	1	–
Asset-backed securities	147	–	–	–	(86)	–	–	61	–
Total available-for-sale securities	148	–	–	–	(86)	–	–	62	–
Loans	159	(1) (c)	1	–	(19)	–	–	140	(1) (c)
Mortgage servicing rights	6,241	98 (d)	291	(2)	(195)	–	–	6,433	98 (d)
Other assets	1,225	(160) (c)	2	–	(7)	3	–	1,063	(160) (c)

Three months ended September 30, 2018 (in millions)	Fair value measurements using significant unobservable inputs									Change in unrealized (gains)/losses related to financial instruments held at September 30, 2018
	Fair value at July 1, 2018	Total realized/unrealized (gains)/losses	Purchases	Sales	Issuances	Settlements[g]	Transfers into level 3[h]	Transfers (out of) level 3[h]	Fair value at September 30, 2018	
Liabilities:[a]										
Deposits	$ 4,305	$ (84) (c)(e)	$ –	$ –	$ 517	$ (170)	$ 1	$ (129)	$ 4,440	$ (82) (c)(e)
Short-term borrowings	2,209	(47) (c)(e)	–	–	713	(885)	6	(25)	1,971	(31) (c)(e)
Trading liabilities – debt and equity instruments	43	36 (c)	(6)	19	–	(2)	7	(1)	96	36 (c)
Accounts payable and other liabilities	8	1 (c)	–	–	–	–	3	–	12	1 (c)
Beneficial interests issued by consolidated VIEs	1	–	–	–	–	–	–	–	1	–
Long-term debt	17,632 (i)	194 (c)(e)	–	–	3,551	(1,809)	59	(219)	19,408 (i)	192 (c)(e)

Nine months ended September 30, 2019 (in millions)	Fair value measurements using significant unobservable inputs								Change in unrealized gains/(losses) related to financial instruments held at September 30, 2019
	Fair value at January 1, 2019	Total realized/unrealized gains/(losses)	Purchases[f]	Sales	Settlements[g]	Transfers into level 3[h]	Transfers (out of) level 3[h]	Fair value at September 30, 2019	
Assets:[a]									
Trading assets:									
Debt instruments:									
Mortgage-backed securities:									
U.S. GSEs and government agencies	$ 549	$ (111)	$ 747	$ (272)	$ (83)	$ 1	$ (20)	$ 811	$ (116)
Residential – nonagency	64	25	83	(86)	(20)	15	(57)	24	(1)
Commercial – nonagency	11	2	19	(24)	(14)	15	(4)	5	1
Total mortgage-backed securities	624	(84)	849	(382)	(117)	31	(81)	840	(116)
U.S. Treasury, GSEs and government agencies	–	–	–	–	–	–	–	–	–
Obligations of U.S. states and municipalities	689	12	85	(152)	(7)	–	–	627	13
Non-U.S. government debt securities	155	(2)	228	(231)	–	14	(18)	146	3
Corporate debt securities	334	74	340	(236)	(53)	96	(71)	484	15
Loans	1,706	95	609	(416)	(408)	509	(349)	1,746	44
Asset-backed securities	127	–	30	(81)	(39)	23	(22)	38	(3)
Total debt instruments	3,635	95	2,141	(1,498)	(624)	673	(541)	3,881	(44)
Equity securities	232	(28)	33	(92)	(22)	142	(95)	170	(21)
Other	301	42	50	(16)	(41)	1	(5)	332	55
Total trading assets – debt and equity instruments	4,168	109 [c]	2,224	(1,606)	(687)	816	(641)	4,383	(10) [c]
Net derivative receivables:[b]									
Interest rate	(38)	(575)	86	(102) [i]	174 [i]	22	114	(319)	(694)
Credit	(107)	(209)	16	(5)	(13)	7	(6)	(317)	(169)
Foreign exchange	(297)	(840)	13	(18)	294	(19)	26	(841)	(815)
Equity	(2,225)	328	335	(573)	(1,062)	(418)	147	(3,468)	(1,193)
Commodity	(1,129)	370	32	(240)	51	2	867	(47)	634
Total net derivative receivables	(3,796)	(926) [c]	482	(938)	(556)	(406)	1,148	(4,992)	(2,237) [c]
Available-for-sale securities:									
Mortgage-backed securities	1	–	1	–	(1)	–	–	1	–
Asset-backed securities	–	–	–	–	–	–	–	–	–
Total available-for-sale securities	1	–	1	–	(1)	–	–	1	–
Loans	122	4 [c]	–	–	(125)	–	–	1	–
Mortgage servicing rights	6,130	(1,572) [d]	1,250	(687)	(702)	–	–	4,419	(1,572) [d]
Other assets	927	(152) [c]	170	(160)	(33)	1	(7)	746	(145) [c]

Nine months ended September 30, 2019 (in millions)	Fair value measurements using significant unobservable inputs									Change in unrealized (gains)/losses related to financial instruments held at September 30, 2019
	Fair value at January 1, 2019	Total realized/unrealized (gains)/losses	Purchases	Sales	Issuances	Settlements[g]	Transfers into level 3[h]	Transfers (out of) level 3[h]	Fair value at September 30, 2019	
Liabilities:[a]										
Deposits	$ 4,169	$ 241 [c][e]	$ –	$ –	$ 580	$ (504)	$ 12	$ (862)	$ 3,636	$ 250 [c][e]
Short-term borrowings	1,523	142 [c][e]	–	–	2,637	(2,265)	85	(121)	2,001	74 [c][e]
Trading liabilities – debt and equity instruments	50	–	(12)	41	–	1	9	(21)	68	(1) [c]
Accounts payable and other liabilities	10	(7) [c]	(79)	94	–	–	1	–	19	4 [c]
Beneficial interests issued by consolidated VIEs	1	(1) [c]	–	–	–	–	–	–	–	–
Long-term debt	19,418	1,915 [c][e]	–	–	6,929	(5,675)	522	(760)	22,349	2,010 [c][e]

Nine months ended September 30, 2018 (in millions)	Fair value measurements using significant unobservable inputs								Change in unrealized gains/ (losses) related to financial instruments held at September 30, 2018
	Fair value at January 1, 2018	Total realized/ unrealized gains/ (losses)	Purchases[f]	Sales	Settlements[g]	Transfers into level 3[h]	Transfers (out of) level 3[h]	Fair value at September 30, 2018	
Assets:[a]									
Trading assets:									
Debt instruments:									
Mortgage-backed securities:									
U.S. GSEs and government agencies	$ 307	$ 5	$ 348	$ (126)	$ (56)	$ 92	$ (41)	$ 529	$ 3
Residential – nonagency	60	1	45	(19)	(6)	58	(62)	77	4
Commercial – nonagency	11	2	7	(8)	(13)	30	(16)	13	(1)
Total mortgage-backed securities	378	8	400	(153)	(75)	180	(119)	619	6
U.S. Treasury, GSEs and government agencies	1	–	–	–	–	–	(1)	–	–
Obligations of U.S. states and municipalities	744	(3)	107	(70)	(79)	–	–	699	(3)
Non-U.S. government debt securities	78	(19)	395	(213)	(2)	18	(93)	164	(18)
Corporate debt securities	312	(6)	297	(227)	(15)	249	(215)	395	(1)
Loans	2,719	58	1,223	(1,680)	(528)	422	(681)	1,533	(22)
Asset-backed securities	153	15	64	(29)	(53)	18	(92)	76	8
Total debt instruments	4,385	53	2,486	(2,372)	(752)	887	(1,201)	3,486	(30)
Equity securities	295	(1)	99	(108)	(1)	86	(41)	329	11
Other	690	(209)	47	(40)	(75)	3	(3)	413	(250)
Total trading assets – debt and equity instruments	5,370	(157) [c]	2,632	(2,520)	(828)	976	(1,245)	4,228	(269) [c]
Net derivative receivables:[b]									
Interest rate	264	576	83	(77)	(234)	40	39	691	498
Credit	(35)	19	3	(7)	22	5	20	27	7
Foreign exchange	(396)	184	42	(15)	(46)	(114)	43	(302)	42
Equity	(3,409)	688	1,467	(1,919)	1,043	(324)	177	(2,277)	31
Commodity	(674)	468	–	–	(287)	7	(39)	(525)	158
Total net derivative receivables	(4,250)	1,935 [c]	1,595	(2,018)	498	(386)	240	(2,386)	736 [c]
Available-for-sale securities:									
Mortgage-backed securities	1	–	–	–	–	–	–	1	–
Asset-backed securities	276	1	–	–	(216)	–	–	61	1
Total available-for-sale securities	277	1 [j]	–	–	(216)	–	–	62	1 [j]
Loans	276	(5) [c]	123	–	(180)	–	(74)	140	(5) [c]
Mortgage servicing rights	6,030	576 [d]	770	(401)	(542)	–	–	6,433	576 [d]
Other assets	1,265	(210) [c]	49	(16)	(28)	4	(1)	1,063	(217) [c]

Nine months ended September 30, 2018 (in millions)	Fair value measurements using significant unobservable inputs									Change in unrealized (gains)/losses related to financial instruments held at September 30, 2018
	Fair value at January 1, 2018	Total realized/ unrealized (gains)/ losses	Purchases	Sales	Issuances	Settlements[g]	Transfers into level 3[h]	Transfers (out of) level 3[h]	Fair value at September 30, 2018	
Liabilities:[a]										
Deposits	$ 4,142	$(125) [c][e]	$ –	$ –	$ 1,272	$ (425)	$ 2	$ (426)	$ 4,440	$ (115) [c][e]
Short-term borrowings	1,665	(229) [c][e]	–	–	2,783	(2,245)	61	(64)	1,971	26 [c][e]
Trading liabilities – debt and equity instruments	39	28 [c]	(68)	95	–	(1)	9	(6)	96	11 [c]
Accounts payable and other liabilities	13	–	(6)	1	–	–	4	–	12	–
Beneficial interests issued by consolidated VIEs	39	–	–	–	–	(38)	–	–	1	–
Long-term debt	16,125	(396) [c][e]	–	–	9,792 [i]	(6,195) [i]	653	(571)	19,408 [i]	(576) [c][e]

(a) Level 3 assets as a percentage of total Firm assets accounted for at fair value (including assets measured at fair value on a nonrecurring basis) were 2% and 3% at September 30, 2019 and December 31, 2018, respectively. Level 3 liabilities as a percentage of total Firm liabilities accounted for at fair value (including liabilities measured at fair value on a nonrecurring basis) were 15% at both September 30, 2019 and December 31, 2018, respectively.
(b) All level 3 derivatives are presented on a net basis, irrespective of the underlying counterparty.
(c) Predominantly reported in principal transactions revenue, except for changes in fair value for CCB mortgage loans and lending-related commitments originated with the intent to sell, and mortgage loan purchase commitments, which are reported in mortgage fees and related income.
(d) Changes in fair value for MSRs are reported in mortgage fees and related income.
(e) Realized (gains)/losses due to DVA for fair value option elected liabilities are reported in principal transactions revenue, and they were not material for the three and nine months ended September 30, 2019 and 2018, respectively. Unrealized (gains)/losses are reported in OCI, and they were $(62) million and $123 million for the three months ended September 30, 2019 and 2018, respectively and $108 million for the nine months ended September 30, 2019 and were not material for the nine months ended September 30, 2018.
(f) Loan originations are included in purchases.
(g) Includes financial assets and liabilities that have matured, been partially or fully repaid, impacts of modifications, deconsolidations associated with beneficial interests in VIEs and other items.
(h) All transfers into and/or out of level 3 are based on changes in the observability and/or significance of the valuation inputs and are assumed to occur at the beginning of the quarterly reporting period in which they occur.
(i) The prior period amounts have been revised to conform with the current period presentation.
(j) Realized gains/(losses) on AFS securities, as well as other-than-temporary impairment ("OTTI") losses that are recorded in earnings, are reported in investment securities gains/(losses). Unrealized gains/(losses) are reported in OCI. There were no realized gains/(losses) recorded in income on AFS securities for the three and nine months ended September 30, 2019 and 2018, respectively. Unrealized gains/(losses) recorded on AFS securities in OCI were zero for both the three months ended September 30, 2019 and 2018, respectively and zero and $1 million for the nine months ended September 30, 2019 and 2018, respectively.

Level 3 analysis

Consolidated balance sheets changes

Level 3 assets, including assets measured at fair value on a nonrecurring basis, were 0.6% of total Firm assets at September 30, 2019. The following describes significant changes to level 3 assets since December 31, 2018, for those items measured at fair value on a recurring basis. Refer to Assets and liabilities measured at fair value on a nonrecurring basis on page 97 for further information on changes impacting items measured at fair value on a nonrecurring basis.

Three and nine months ended September 30, 2019

Level 3 assets were $15.1 billion at September 30, 2019, reflecting a decrease of $1.4 billion and $2.0 billion from June 30, 2019 and December 31, 2018, respectively.

The decrease for the three months ended September 30, 2019 was predominantly driven by a reduction of $674 million in MSRs and a reduction of $619 million in gross equity derivative receivables due to settlements.

The decrease for the nine months ended September 30, 2019 was predominantly driven by a reduction of approximately $1.7 billion in MSRs. Refer to the Gains and losses section below for additional information.

Transfers between levels for instruments carried at fair value on a recurring basis

For both the three and nine months ended September 30, 2019, there were no individually significant transfers from level 2 to level 3.

For the three and nine months ended September 30, 2019, individually significant transfers from level 3 to level 2 included $906 million and $927 million, respectively of gross commodities derivative payables as a result of an increase in observability.

For the three months ended September 30, 2018, there were no individually significant transfers from level 2 to level 3.

For the nine months ended September 30, 2018, significant transfers from level 2 to level 3 included the following:

- $1.0 billion of gross equity derivative payables as a result of a decrease in observability and an increase in the significance of unobservable inputs.

For the three months ended September 30, 2018, there were no individually significant transfers from level 3 to level 2.

For the nine months ended September 30, 2018, significant transfers from level 3 to level 2 included the following:

- $1.2 billion of total debt and equity instruments, the majority of which were trading loans, driven by an increase in observability.
- $1.0 billion of gross equity derivative receivables and $1.2 billion of gross equity derivative payables as a result of an increase in observability and a decrease in the significance of unobservable inputs.

All transfers are based on changes in the observability and/or significance of the valuation inputs and are assumed to occur at the beginning of the quarterly reporting period in which they occur.

Gains and losses

The following describes significant components of total realized/unrealized gains/(losses) for instruments measured at fair value on a recurring basis for the periods indicated. These amounts exclude any effects of the Firm's risk management activities where the financial instruments are classified as level 1 and 2 of the fair value hierarchy. Refer to Changes in level 3 recurring fair value measurements rollforward tables on pages 90–95 for further information on these instruments.

Three months ended September 30, 2019

- $1.6 billion of net losses on assets, predominantly driven by net derivative receivables due to market movements and MSRs largely reflecting faster prepayment speeds on lower rates. Refer to Note 14 for information on MSRs.
- $205 million of net losses on liabilities, none of which were individually significant.

Three months ended September 30, 2018

- $394 million of net gains on assets and $100 million of net gains on liabilities, none of which were individually significant.

Nine months ended September 30, 2019

- $2.5 billion of net losses on assets, driven by net derivative receivables due to market movements and MSRs reflecting faster prepayment speeds on lower rates. Refer to Note 14 for information on MSRs.
- $2.3 billion of net losses on liabilities, predominantly driven by market movements in long-term debt.

Nine months ended September 30, 2018

- $2.1 billion of net gains on assets predominantly driven by market movements in derivative receivables.
- $722 million of net gains on liabilities, none of which were individually significant.

Credit and funding adjustments — derivatives

The following table provides the impact of credit and funding adjustments on principal transactions revenue in the respective periods, excluding the effect of any associated hedging activities. The FVA presented below includes the impact of the Firm's own credit quality on the inception value of liabilities as well as the impact of changes in the Firm's own credit quality over time.

	Three months ended September 30,		Nine months ended September 30,	
(in millions)	**2019**	2018	**2019**	2018
Credit and funding adjustments:				
Derivatives CVA	**$ 55**	$ 66	**$ 71**	$ 223
Derivatives FVA	**(83)**	88	**(20)**	102

Refer to Note 2 of JPMorgan Chase's 2018 Form 10-K for further information about both credit and funding adjustments, as well as information about valuation adjustments on fair value option elected liabilities.

Assets and liabilities measured at fair value on a nonrecurring basis

The following tables present the assets held as of September 30, 2019 and 2018, respectively, for which a nonrecurring fair value adjustment was recorded during the nine months ended September 30, 2019 and 2018, respectively, by major product category and fair value hierarchy.

	Fair value hierarchy			
September 30, 2019 (in millions)	Level 1	Level 2	Level 3	Total fair value
Loans	**$ –**	**$ 5,338** [b]	**$ 246** [c]	**$ 5,584**
Other assets[a]	**–**	**18**	**775**	**793**
Total assets measured at fair value on a nonrecurring basis	**$ –**	**$ 5,356**	**$ 1,021**	**$ 6,377**

	Fair value hierarchy			
September 30, 2018 (in millions)	Level 1	Level 2	Level 3	Total fair value
Loans	$ –	$ 492	$ 243	$ 735
Other assets	–	216	826	1,042
Total assets measured at fair value on a nonrecurring basis	$ –	$ 708	$ 1,069	$ 1,777

(a) Primarily includes equity securities without readily determinable fair values that were adjusted based on observable price changes in orderly transactions from an identical or similar investment of the same issuer (measurement alternative). Of the $775 million in level 3 assets measured at fair value on a nonrecurring basis as of September 30, 2019, $638 million related to such equity securities. These equity securities are classified as level 3 due to the infrequency of the observable prices and/or the restrictions on the shares.

(b) Primarily includes certain mortgage loans that were reclassified to held-for-sale.

(c) Of the $246 million in level 3 assets measured at fair value on a nonrecurring basis as of September 30, 2019, $200 million related to residential real estate loans carried at the net realizable value of the underlying collateral (e.g., collateral-dependent loans and other loans charged off in accordance with regulatory guidance). These amounts are classified as level 3 as they are valued using information from broker's price opinions, appraisals and automated valuation models and discounted based upon the Firm's experience with actual liquidation values. These discounts ranged from 14% to 49% with a weighted average of 29%.

There were no material liabilities measured at fair value on a nonrecurring basis at September 30, 2019 and 2018.

Nonrecurring fair value changes

The following table presents the total change in value of assets for which a fair value adjustment has been recognized for the three and nine months ended September 30, 2019 and 2018, related to assets held at those dates.

	Three months ended September 30,		Nine months ended September 30,	
(in millions)	**2019**	2018	**2019**	2018
Loans	**$ (142)** [b]	$ (22)	**$ (232)** [b]	$ (36)
Other assets[a]	**23**	(117)	**123**	383
Total nonrecurring fair value gains/(losses)	**$ (119)**	$ (139)	**$ (109)**	$ 347

(a) Included $34 million and $(113) million for the three months ended September 30, 2019 and 2018, respectively and $132 million and $384 million for the nine months ended September 30, 2019 and 2018, respectively, of net gains as a result of the measurement alternative.

(b) Primarily includes the impact of certain mortgage loans that were reclassified to held-for-sale.

Refer to Note 12 of JPMorgan Chase's 2018 Form 10-K for further information about the measurement of impaired collateral-dependent loans, and other loans where the carrying value is based on the fair value of the underlying collateral (e.g., residential mortgage loans charged off in accordance with regulatory guidance).

Equity securities without readily determinable fair values

The Firm measures equity securities without readily determinable fair values at cost less impairment (if any), plus or minus observable price changes from an identical or similar investment of the same issuer, with such changes recognized in earnings.

In its determination of the new carrying values upon observable price changes, the Firm may adjust the prices if deemed necessary to arrive at the Firm's estimated fair values. Such adjustments may include adjustments to reflect the different rights and obligations of similar securities, and other adjustments that are consistent with the Firm's valuation techniques for private equity direct investments.

The following table presents the carrying value of equity securities without readily determinable fair values still held as of September 30, 2019 and 2018, that are measured under the measurement alternative and the related adjustments recorded during the periods presented for those securities with observable price changes. These securities are included in the nonrecurring fair value tables when applicable price changes are observable.

As of or for the period ended, (in millions)	Three months ended September 30, 2019	Three months ended September 30, 2018	Nine months ended September 30, 2019	Nine months ended September 30, 2018
Other assets				
Carrying value[(a)]	**$ 2,771**	$ 1,801	**$ 2,771**	$ 1,801
Upward carrying value changes[(b)]	**34**	14	**169**	540
Downward carrying value changes/impairment[(c)]	**–**	(127)	**(37)**	(156)

(a) The carrying value as of December 31, 2018 was $1.5 billion.
(b) The cumulative upward carrying value changes between January 1, 2018 and September 30, 2019 were $479 million.
(c) The cumulative downward carrying value changes/impairment between January 1, 2018 and September 30, 2019 were $(197) million.

Included in other assets above is the Firm's interest in approximately 40 million Visa Class B shares, recorded at a nominal carrying value. These shares are subject to certain transfer restrictions currently and will be convertible into Visa Class A shares upon final resolution of certain litigation matters involving Visa. The conversion rate of Visa Class B shares into Visa Class A shares is 1.6228 at September 30, 2019, and may be adjusted by Visa depending on developments related to the litigation matters.

Additional disclosures about the fair value of financial instruments that are not carried on the Consolidated balance sheets at fair value

The following table presents by fair value hierarchy classification the carrying values and estimated fair values at September 30, 2019, and December 31, 2018, of financial assets and liabilities, excluding financial instruments that are carried at fair value on a recurring basis, and their classification within the fair value hierarchy.

	September 30, 2019					December 31, 2018				
		Estimated fair value hierarchy					Estimated fair value hierarchy			
(in billions)	Carrying value	Level 1	Level 2	Level 3	Total estimated fair value	Carrying value	Level 1	Level 2	Level 3	Total estimated fair value
Financial assets										
Cash and due from banks	**$ 21.2**	**$ 21.2**	**$ –**	**$ –**	**$ 21.2**	$ 22.3	$ 22.3	$ –	$ –	$ 22.3
Deposits with banks	**235.4**	**235.4**	**–**	**–**	**235.4**	256.5	256.5	–	–	256.5
Accrued interest and accounts receivable	**87.9**	**–**	**87.9**	**–**	**87.9**	72.0	–	71.9	0.1	72.0
Federal funds sold and securities purchased under resale agreements	**243.7**	**–**	**243.7**	**–**	**243.7**	308.4	–	308.4	–	308.4
Securities borrowed	**132.6**	**–**	**132.6**	**–**	**132.6**	106.9	–	106.9	–	106.9
Investment securities, held-to-maturity	**40.8**	**–**	**42.4**	**–**	**42.4**	31.4	–	31.5	–	31.5
Loans, net of allowance for loan losses[(a)]	**926.2**	**–**	**218.9**	**720.7**	**939.6**	968.0	–	241.5	728.5	970.0
Other	**60.6**	**–**	**59.8**	**0.9**	**60.7**	60.5	–	59.6	1.0	60.6
Financial liabilities										
Deposits	**$ 1,495.9**	**$ –**	**$ 1,496.3**	**$ –**	**$ 1,496.3**	$ 1,447.4	$ –	$ 1,447.5	$ –	$ 1,447.5
Federal funds purchased and securities loaned or sold under repurchase agreements	**246.8**	**–**	**246.8**	**–**	**246.8**	181.4	–	181.4	–	181.4
Short-term borrowings	**42.4**	**–**	**42.4**	**–**	**42.4**	62.1	–	62.1	–	62.1
Accounts payable and other liabilities	**181.5**	**0.7**	**177.0**	**3.4**	**181.1**	160.6	0.2	157.0	3.0	160.2
Beneficial interests issued by consolidated VIEs	**18.5**	**–**	**18.5**	**–**	**18.5**	20.2	–	20.2	–	20.2
Long-term debt and junior subordinated deferrable interest debentures	**224.3**	**–**	**223.5**	**3.4**	**226.9**	227.1	–	224.6	3.3	227.9

(a) Fair value is typically estimated using a discounted cash flow model that incorporates the characteristics of the underlying loans (including principal, contractual interest rate and contractual fees) and other key inputs, including expected lifetime credit losses, interest rates, prepayment rates, and primary origination or secondary market spreads. For certain loans, the fair value is measured based on the value of the underlying collateral. The difference between the estimated fair value and carrying value of a financial asset or liability is the result of the different methodologies used to determine fair value as compared with carrying value. For example, credit losses are estimated for a financial asset's remaining life in a fair value calculation but are estimated for a loss emergence period in the allowance for loan loss calculation; future loan income (interest and fees) is incorporated in a fair value calculation but is generally not considered in the allowance for loan losses.

The majority of the Firm's lending-related commitments are not carried at fair value on a recurring basis on the Consolidated balance sheets. The carrying value of the wholesale allowance for lending-related commitments and the estimated fair value of these wholesale lending-related commitments were as follows for the periods indicated.

	September 30, 2019					December 31, 2018				
		Estimated fair value hierarchy					Estimated fair value hierarchy			
(in billions)	Carrying value[(a)]	Level 1	Level 2	Level 3	Total estimated fair value	Carrying value[(a)]	Level 1	Level 2	Level 3	Total estimated fair value[(b)]
Wholesale lending-related commitments	**$ 1.1**	**$ –**	**$ –**	**$ 1.9**	**$ 1.9**	$ 1.0	$ –	$ –	$ 1.9	$ 1.9

(a) Excludes the current carrying values of the guarantee liability and the offsetting asset, each of which is recognized at fair value at the inception of the guarantees.
(b) The prior period amounts have been revised to conform with the current period presentation.

The Firm does not estimate the fair value of consumer lending-related commitments. In many cases, the Firm can reduce or cancel these commitments by providing the borrower notice or, in some cases as permitted by law, without notice. Refer to page 161 of JPMorgan Chase's 2018 Form 10-K for a further discussion of the valuation of lending-related commitments.

Note 3 – Fair value option

Refer to Note 3 of JPMorgan Chase's 2018 Form 10-K for a discussion of the primary financial instruments for which the fair value option was elected, including the basis for those elections and the determination of instrument-specific credit risk, where relevant.

Changes in fair value under the fair value option election

The following table presents the changes in fair value included in the Consolidated statements of income for the three months ended September 30, 2019 and 2018, for items for which the fair value option was elected. The profit and loss information presented below only includes the financial instruments that were elected to be measured at fair value; related risk management instruments, which are required to be measured at fair value, are not included in the table.

	Three months ended September 30,					
	2019			2018		
(in millions)	Principal transactions	All other income	Total changes in fair value recorded [e]	Principal transactions	All other income	Total changes in fair value recorded [e]
Federal funds sold and securities purchased under resale agreements	**$ (23)**	**$ –**	**$ (23)**	$ (23)	$ –	$ (23)
Securities borrowed	**99**	**–**	**99**	(24)	–	(24)
Trading assets:						
Debt and equity instruments, excluding loans	**546**	**–**	**546**	(45)	5 [c]	(40)
Loans reported as trading assets:						
Changes in instrument-specific credit risk	**111**	**(4)** [c]	**107**	122	1 [c]	123
Other changes in fair value	**74**	**320** [c]	**394**	(6)	49 [c]	43
Loans:						
Changes in instrument-specific credit risk	**(4)**	**–**	**(4)**	(1)	–	(1)
Other changes in fair value	**–**	**–**	**–**	1	–	1
Other assets	**(6)**	**–**	**(6)**	2	16 [d]	18
Deposits[a]	**(397)**	**–**	**(397)**	32	–	32
Federal funds purchased and securities loaned or sold under repurchase agreements	**2**	**–**	**2**	8	–	8
Short-term borrowings[a]	**173**	**–**	**173**	(25)	–	(25)
Trading liabilities	**–**	**–**	**–**	2	–	2
Other liabilities	**1**	**–**	**1**	–	–	–
Long-term debt[a][b]	**(614)**	**–**	**(614)**	259	–	259

(in millions)	Nine months ended September 30, 2019 Principal transactions	2019 All other income	2019 Total changes in fair value recorded (e)	2018 Principal transactions	2018 All other income	2018 Total changes in fair value recorded (e)
Federal funds sold and securities purchased under resale agreements	**$ 10**	**$ –**	**$ 10**	$ (49)	$ –	$ (49)
Securities borrowed	**179**	**–**	**179**	(22)	–	(22)
Trading assets:						
Debt and equity instruments, excluding loans	**2,104**	**–**	**2,104**	(490)	6 (c)	(484)
Loans reported as trading assets:						
Changes in instrument-specific credit risk	**558**	**1** (c)	**559**	458	5 (c)	463
Other changes in fair value	**274**	**885** (c)	**1,159**	64	24 (c)	88
Loans:						
Changes in instrument-specific credit risk	**(12)**	**–**	**(12)**	(2)	–	(2)
Other changes in fair value	**1**	**–**	**1**	(1)	–	(1)
Other assets	**(3)**	**3** (d)	**–**	4	6 (d)	10
Deposits[a]	**(1,589)**	**–**	**(1,589)**	371	–	371
Federal funds purchased and securities loaned or sold under repurchase agreements	**(18)**	**–**	**(18)**	27	–	27
Short-term borrowings[a]	**(601)**	**–**	**(601)**	86	–	86
Trading liabilities	**5**	**–**	**5**	1	–	1
Other liabilities	**(7)**	**–**	**(7)**	–	–	–
Long-term debt[a][b]	**(5,220)**	**–**	**(5,220)**	1,486	–	1,486

(a) Unrealized gains/(losses) due to instrument-specific credit risk (DVA) for liabilities for which the fair value option has been elected is recorded in OCI, while realized gains/(losses) are recorded in principal transactions revenue. Realized gains/(losses) due to instrument-specific credit risk recorded in principal transactions revenue were not material for the three and nine months ended September 30, 2019 and 2018, respectively.
(b) Long-term debt measured at fair value predominantly relates to structured notes. Although the risk associated with the structured notes is actively managed, the gains/(losses) reported in this table do not include the income statement impact of the risk management instruments used to manage such risk.
(c) Reported in mortgage fees and related income.
(d) Reported in other income.
(e) Changes in fair value exclude contractual interest, which is included in interest income and interest expense for all instruments other than hybrid financial instruments. Refer to Note 6 for further information regarding interest income and interest expense.

Difference between aggregate fair value and aggregate remaining contractual principal balance outstanding

The following table reflects the difference between the aggregate fair value and the aggregate remaining contractual principal balance outstanding as of September 30, 2019, and December 31, 2018, for loans, long-term debt and long-term beneficial interests for which the fair value option has been elected.

(in millions)	September 30, 2019			December 31, 2018		
	Contractual principal outstanding	Fair value	Fair value over/(under) contractual principal outstanding	Contractual principal outstanding	Fair value	Fair value over/(under) contractual principal outstanding
Loans[a]						
Nonaccrual loans						
Loans reported as trading assets	**$ 3,884**	**$ 1,151**	**$ (2,733)**	$ 4,240	$ 1,350	$ (2,890)
Loans	**181**	**151**	**(30)**	39	–	(39)
Subtotal	**4,065**	**1,302**	**(2,763)**	4,279	1,350	(2,929)
All other performing loans						
Loans reported as trading assets	**45,315**	**43,903**	**(1,412)**	42,215	40,403	(1,812)
Loans	**5,686**	**5,609**	**(77)**	3,186	3,151	(35)
Total loans	**$ 55,066**	**$ 50,814**	**$ (4,252)**	$ 49,680	$ 44,904	$ (4,776)
Long-term debt						
Principal-protected debt	**$ 40,750** [c]	**$ 37,635**	**$ (3,115)**	$ 32,674 [c]	$ 28,718	$ (3,956)
Nonprincipal-protected debt[b]	**NA**	**34,322**	**NA**	NA	26,168	NA
Total long-term debt	**NA**	**$ 71,957**	**NA**	NA	$ 54,886	NA
Long-term beneficial interests						
Nonprincipal-protected debt[b]	**NA**	**$ 39**	**NA**	NA	$ 28	NA
Total long-term beneficial interests	**NA**	**$ 39**	**NA**	NA	$ 28	NA

(a) There were no performing loans that were ninety days or more past due as of September 30, 2019, and December 31, 2018, respectively.
(b) Remaining contractual principal is not applicable to nonprincipal-protected structured notes and long-term beneficial interests. Unlike principal-protected structured notes and long-term beneficial interests, for which the Firm is obligated to return a stated amount of principal at maturity, nonprincipal-protected structured notes and long-term beneficial interests do not obligate the Firm to return a stated amount of principal at maturity, but for structured notes to return an amount based on the performance of an underlying variable or derivative feature embedded in the note. However, investors are exposed to the credit risk of the Firm as issuer for both nonprincipal-protected and principal-protected notes.
(c) Where the Firm issues principal-protected zero-coupon or discount notes, the balance reflects the contractual principal payment at maturity or, if applicable, the contractual principal payment at the Firm's next call date.

At September 30, 2019, and December 31, 2018, the contractual amount of lending-related commitments for which the fair value option was elected was $6.5 billion and $6.9 billion, respectively, with a corresponding fair value of $(91) million and $(82) million, respectively. Refer to Note 27 of JPMorgan Chase's 2018 Form 10-K, and Note 22 of this Form 10-Q for further information regarding off-balance sheet lending-related financial instruments.

Structured note products by balance sheet classification and risk component

The following table presents the fair value of structured notes, by balance sheet classification and the primary risk type.

(in millions)	September 30, 2019				December 31, 2018			
	Long-term debt	Short-term borrowings	Deposits	Total	Long-term debt	Short-term borrowings	Deposits	Total
Risk exposure								
Interest rate	**$ 33,402**	**$ 54**	**$ 17,547**	**$ 51,003**	$ 24,137	$ 62	$ 12,372	$ 36,571
Credit	**5,207**	**817**	**–**	**6,024**	4,009	995	–	5,004
Foreign exchange	**3,570**	**45**	**8**	**3,623**	3,169	157	38	3,364
Equity	**27,644**	**5,565**	**8,190**	**41,399**	21,382	5,422	7,368	34,172
Commodity	**504**	**7**	**1,352**	**1,863**	372	34	1,207	1,613
Total structured notes	**$ 70,327**	**$ 6,488**	**$ 27,097**	**$103,912**	$ 53,069	$ 6,670	$ 20,985	$ 80,724

Note 4 – Derivative instruments

JPMorgan Chase makes markets in derivatives for clients and also uses derivatives to hedge or manage its own risk exposures. Refer to Note 5 of JPMorgan Chase's 2018 Form 10-K for a further discussion of the Firm's use of and accounting policies regarding derivative instruments.

The Firm's disclosures are based on the accounting treatment and purpose of these derivatives. A limited number of the Firm's derivatives are designated in hedge accounting relationships and are disclosed according to the type of hedge (fair value hedge, cash flow hedge, or net investment hedge). Derivatives not designated in hedge accounting relationships include certain derivatives that are used to manage certain risks associated with specified assets or liabilities ("specified risk management" positions) as well as derivatives used in the Firm's market-making businesses or for other purposes.

The following table outlines the Firm's primary uses of derivatives and the related hedge accounting designation or disclosure category.

Type of Derivative	Use of Derivative	Designation and disclosure	Affected segment or unit	10-Q page reference
Manage specifically identified risk exposures in qualifying hedge accounting relationships:				
• Interest rate	Hedge fixed rate assets and liabilities	Fair value hedge	Corporate	109-110
• Interest rate	Hedge floating-rate assets and liabilities	Cash flow hedge	Corporate	111
• Foreign exchange	Hedge foreign currency-denominated assets and liabilities	Fair value hedge	Corporate	109-110
• Foreign exchange	Hedge foreign currency-denominated forecasted revenue and expense	Cash flow hedge	Corporate	111
• Foreign exchange	Hedge the value of the Firm's investments in non-U.S. dollar functional currency entities	Net investment hedge	Corporate	112
• Commodity	Hedge commodity inventory	Fair value hedge	CIB	109-110
Manage specifically identified risk exposures not designated in qualifying hedge accounting relationships:				
• Interest rate	Manage the risk of the mortgage pipeline, warehouse loans and MSRs	Specified risk management	CCB	112
• Credit	Manage the credit risk of wholesale lending exposures	Specified risk management	CIB	112
• Interest rate and foreign exchange	Manage the risk of certain other specified assets and liabilities	Specified risk management	Corporate	112
Market-making derivatives and other activities:				
• Various	Market-making and related risk management	Market-making and other	CIB	112
• Various	Other derivatives	Market-making and other	CIB, AWM, Corporate	112

Notional amount of derivative contracts

The following table summarizes the notional amount of derivative contracts outstanding as of September 30, 2019, and December 31, 2018.

(in billions)	Notional amounts[b] September 30, 2019	Notional amounts[b] December 31, 2018
Interest rate contracts		
Swaps	**$ 25,099**	$ 21,763
Futures and forwards	**4,887**	3,562
Written options	**4,290**	3,997
Purchased options	**4,697**	4,322
Total interest rate contracts	**38,973**	33,644
Credit derivatives[a]	**1,365**	1,501
Foreign exchange contracts		
Cross-currency swaps	**3,886**	3,548
Spot, futures and forwards	**7,111**	5,871
Written options	**832**	835
Purchased options	**852**	830
Total foreign exchange contracts	**12,681**	11,084
Equity contracts		
Swaps	**389**	346
Futures and forwards	**131**	101
Written options	**692**	528
Purchased options	**632**	490
Total equity contracts	**1,844**	1,465
Commodity contracts		
Swaps	**148**	134
Spot, futures and forwards	**218**	156
Written options	**166**	135
Purchased options	**153**	120
Total commodity contracts	**685**	545
Total derivative notional amounts	**$ 55,548**	$ 48,239

(a) Refer to the Credit derivatives discussion on page 113 for more information on volumes and types of credit derivative contracts.
(b) Represents the sum of gross long and gross short third-party notional derivative contracts.

While the notional amounts disclosed above give an indication of the volume of the Firm's derivatives activity, the notional amounts significantly exceed, in the Firm's view, the possible losses that could arise from such transactions. For most derivative contracts, the notional amount is not exchanged; it is used simply as a reference to calculate payments.

Impact of derivatives on the Consolidated balance sheets

The following table summarizes information on derivative receivables and payables (before and after netting adjustments) that are reflected on the Firm's Consolidated balance sheets as of September 30, 2019, and December 31, 2018, by accounting designation (e.g., whether the derivatives were designated in qualifying hedge accounting relationships or not) and contract type.

Free-standing derivative receivables and payables[(a)]

	Gross derivative receivables				Gross derivative payables			
September 30, 2019 (in millions)	Not designated as hedges	Designated as hedges	Total derivative receivables	Net derivative receivables[(b)]	Not designated as hedges	Designated as hedges	Total derivative payables	Net derivative payables[(b)]
Trading assets and liabilities								
Interest rate	**$ 375,082**	**$ 851**	**$ 375,933**	**$ 28,507**	**$ 338,711**	**$ 2**	**$ 338,713**	**$ 10,223**
Credit	**15,717**	**—**	**15,717**	**838**	**17,062**	**—**	**17,062**	**2,159**
Foreign exchange	**162,364**	**768**	**163,132**	**12,681**	**164,583**	**1,159**	**165,742**	**15,016**
Equity	**46,378**	**—**	**46,378**	**7,409**	**50,891**	**—**	**50,891**	**10,603**
Commodity	**20,985**	**253**	**21,238**	**6,142**	**25,470**	**341**	**25,811**	**9,789**
Total fair value of trading assets and liabilities	**$ 620,526**	**$ 1,872**	**$ 622,398**	**$ 55,577**	**$ 596,717**	**$ 1,502**	**$ 598,219**	**$ 47,790**

	Gross derivative receivables				Gross derivative payables			
December 31, 2018 (in millions)	Not designated as hedges	Designated as hedges	Total derivative receivables	Net derivative receivables[(b)]	Not designated as hedges	Designated as hedges	Total derivative payables	Net derivative payables[(b)]
Trading assets and liabilities								
Interest rate	$ 267,871	$ 833	$ 268,704	$ 23,214	$ 242,782	$ —	$ 242,782	$ 7,784
Credit	20,095	—	20,095	612	20,276	—	20,276	1,667
Foreign exchange	167,057	628	167,685	13,450	164,392	825	165,217	12,785
Equity	49,285	—	49,285	9,946	51,195	—	51,195	10,161
Commodity	20,223	247	20,470	6,991	22,297	121	22,418	9,372
Total fair value of trading assets and liabilities	$ 524,531	$ 1,708	$ 526,239	$ 54,213	$ 500,942	$ 946	$ 501,888	$ 41,769

(a) Balances exclude structured notes for which the fair value option has been elected. Refer to Note 3 for further information.
(b) As permitted under U.S. GAAP, the Firm has elected to net derivative receivables and derivative payables and the related cash collateral receivables and payables when a legally enforceable master netting agreement exists.

Derivatives netting

The following tables present, as of September 30, 2019, and December 31, 2018, gross and net derivative receivables and payables by contract and settlement type. Derivative receivables and payables, as well as the related cash collateral from the same counterparty have been netted on the Consolidated balance sheets where the Firm has obtained an appropriate legal opinion with respect to the master netting agreement. Where such a legal opinion has not been either sought or obtained, amounts are not eligible for netting on the Consolidated balance sheets, and those derivative receivables and payables are shown separately in the tables below.

In addition to the cash collateral received and transferred that is presented on a net basis with derivative receivables and payables, the Firm receives and transfers additional collateral (financial instruments and cash). These amounts mitigate counterparty credit risk associated with the Firm's derivative instruments, but are not eligible for net presentation:

- collateral that consists of non-cash financial instruments (generally U.S. government and agency securities and other G7 government securities) and cash collateral held at third-party custodians, which are shown separately as "Collateral not nettable on the Consolidated balance sheets" in the tables below, up to the fair value exposure amount.
- the amount of collateral held or transferred that exceeds the fair value exposure at the individual counterparty level, as of the date presented, which is excluded from the tables below; and
- collateral held or transferred that relates to derivative receivables or payables where an appropriate legal opinion has not been either sought or obtained with respect to the master netting agreement, which is excluded from the tables below.

	September 30, 2019			December 31, 2018		
(in millions)	Gross derivative receivables	Amounts netted on the Consolidated balance sheets	Net derivative receivables	Gross derivative receivables	Amounts netted on the Consolidated balance sheets	Net derivative receivables
U.S. GAAP nettable derivative receivables						
Interest rate contracts:						
Over-the-counter ("OTC")	**$ 356,075**	**$ (332,566)**	**$ 23,509**	$ 258,227	$ (239,498)	$ 18,729
OTC–cleared	**14,438**	**(14,343)**	**95**	6,404	(5,856)	548
Exchange-traded[a]	**577**	**(517)**	**60**	322	(136)	186
Total interest rate contracts	**371,090**	**(347,426)**	**23,664**	264,953	(245,490)	19,463
Credit contracts:						
OTC	**11,168**	**(10,682)**	**486**	12,648	(12,261)	387
OTC–cleared	**4,321**	**(4,197)**	**124**	7,267	(7,222)	45
Total credit contracts	**15,489**	**(14,879)**	**610**	19,915	(19,483)	432
Foreign exchange contracts:						
OTC	**160,181**	**(150,271)**	**9,910**	163,862	(153,988)	9,874
OTC–cleared	**176**	**(174)**	**2**	235	(226)	9
Exchange-traded[a]	**20**	**(6)**	**14**	32	(21)	11
Total foreign exchange contracts	**160,377**	**(150,451)**	**9,926**	164,129	(154,235)	9,894
Equity contracts:						
OTC	**22,195**	**(20,281)**	**1,914**	26,178	(23,879)	2,299
Exchange-traded[a]	**21,678**	**(18,688)**	**2,990**	18,876	(15,460)	3,416
Total equity contracts	**43,873**	**(38,969)**	**4,904**	45,054	(39,339)	5,715
Commodity contracts:						
OTC	**7,714**	**(5,954)**	**1,760**	7,448	(5,261)	2,187
OTC–cleared	**26**	**(25)**	**1**	–	–	–
Exchange-traded[a]	**9,151**	**(9,117)**	**34**	8,815	(8,218)	597
Total commodity contracts	**16,891**	**(15,096)**	**1,795**	16,263	(13,479)	2,784
Derivative receivables with appropriate legal opinion	**607,720**	**(566,821)**	**40,899** [d]	510,314	(472,026)	38,288 [d]
Derivative receivables where an appropriate legal opinion has not been either sought or obtained	**14,678**		**14,678**	15,925		15,925
Total derivative receivables recognized on the Consolidated balance sheets	**$ 622,398**		**$ 55,577**	$ 526,239		$ 54,213
Collateral not nettable on the Consolidated balance sheets[b][c]			**(13,224)**			(13,046)
Net amounts			**$ 42,353**			$ 41,167

(in millions)	September 30, 2019 Gross derivative payables	Amounts netted on the Consolidated balance sheets	Net derivative payables	December 31, 2018 Gross derivative payables	Amounts netted on the Consolidated balance sheets	Net derivative payables
U.S. GAAP nettable derivative payables						
Interest rate contracts:						
OTC	**$ 321,553**	**$ (313,017)**	**$ 8,536**	$ 233,404	$ (228,369)	$ 5,035
OTC-cleared	**15,176**	**(14,960)**	**216**	7,163	(6,494)	669
Exchange-traded[(a)]	**585**	**(513)**	**72**	210	(135)	75
Total interest rate contracts	**337,314**	**(328,490)**	**8,824**	240,777	(234,998)	5,779
Credit contracts:						
OTC	**13,130**	**(11,254)**	**1,876**	13,412	(11,895)	1,517
OTC-cleared	**3,797**	**(3,649)**	**148**	6,716	(6,714)	2
Total credit contracts	**16,927**	**(14,903)**	**2,024**	20,128	(18,609)	1,519
Foreign exchange contracts:						
OTC	**162,336**	**(150,537)**	**11,799**	160,930	(152,161)	8,769
OTC-cleared	**190**	**(185)**	**5**	274	(268)	6
Exchange-traded[(a)]	**14**	**(4)**	**10**	16	(3)	13
Total foreign exchange contracts	**162,540**	**(150,726)**	**11,814**	161,220	(152,432)	8,788
Equity contracts:						
OTC	**27,010**	**(21,600)**	**5,410**	29,437	(25,544)	3,893
Exchange-traded[(a)]	**20,365**	**(18,688)**	**1,677**	16,285	(15,490)	795
Total equity contracts	**47,375**	**(40,288)**	**7,087**	45,722	(41,034)	4,688
Commodity contracts:						
OTC	**10,450**	**(6,874)**	**3,576**	8,930	(4,838)	4,092
OTC-cleared	**25**	**(25)**	**—**	—	—	—
Exchange-traded[(a)]	**10,004**	**(9,123)**	**881**	8,259	(8,208)	51
Total commodity contracts	**20,479**	**(16,022)**	**4,457**	17,189	(13,046)	4,143
Derivative payables with appropriate legal opinion	**584,635**	**(550,429)**	**34,206** [(d)]	485,036	(460,119)	24,917 [(d)]
Derivative payables where an appropriate legal opinion has not been either sought or obtained	**13,584**		**13,584**	16,852		16,852
Total derivative payables recognized on the Consolidated balance sheets	**$ 598,219**		**$ 47,790**	$ 501,888		$ 41,769
Collateral not nettable on the Consolidated balance sheets[(b)(c)]			**(9,236)**			(4,449)
Net amounts			**$ 38,554**			$ 37,320

(a) Exchange-traded derivative balances that relate to futures contracts are settled daily.
(b) Represents liquid security collateral as well as cash collateral held at third-party custodians related to derivative instruments where an appropriate legal opinion has been obtained. For some counterparties, the collateral amounts of financial instruments may exceed the derivative receivables and derivative payables balances. Where this is the case, the total amount reported is limited to the net derivative receivables and net derivative payables balances with that counterparty.
(c) Derivative collateral relates only to OTC and OTC-cleared derivative instruments.
(d) Net derivatives receivable included cash collateral netted of $78.8 billion and $55.2 billion at September 30, 2019, and December 31, 2018, respectively. Net derivatives payable included cash collateral netted of $62.4 billion and $43.3 billion at September 30, 2019, and December 31, 2018, respectively. Derivative cash collateral relates to OTC and OTC-cleared derivative instruments.

Liquidity risk and credit-related contingent features
Refer to Note 5 of JPMorgan Chase's 2018 Form 10-K for a more detailed discussion of liquidity risk and credit-related contingent features related to the Firm's derivative contracts.

The following table shows the aggregate fair value of net derivative payables related to OTC and OTC-cleared derivatives that contain contingent collateral or termination features that may be triggered upon a ratings downgrade, and the associated collateral the Firm has posted in the normal course of business, at September 30, 2019, and December 31, 2018.

OTC and OTC-cleared derivative payables containing downgrade triggers

(in millions)	**September 30, 2019**	December 31, 2018
Aggregate fair value of net derivative payables	**$ 15,466**	$ 9,396
Collateral posted	**14,388**	8,907

The following table shows the impact of a single-notch and two-notch downgrade of the long-term issuer ratings of JPMorgan Chase & Co. and its subsidiaries, predominantly JPMorgan Chase Bank, N.A., at September 30, 2019, and December 31, 2018, related to OTC and OTC-cleared derivative contracts with contingent collateral or termination features that may be triggered upon a ratings downgrade. Derivatives contracts generally require additional collateral to be posted or terminations to be triggered when the predefined threshold rating is breached. A downgrade by a single rating agency that does not result in a rating lower than a preexisting corresponding rating provided by another major rating agency will generally not result in additional collateral, (except in certain instances in which additional initial margin may be required upon a ratings downgrade), nor in termination payments requirements. The liquidity impact in the table is calculated based upon a downgrade below the lowest current rating of the rating agencies referred to in the derivative contract.

Liquidity impact of downgrade triggers on OTC and OTC-cleared derivatives

	September 30, 2019		December 31, 2018	
(in millions)	Single-notch downgrade	Two-notch downgrade	Single-notch downgrade	Two-notch downgrade
Amount of additional collateral to be posted upon downgrade[(a)]	**$ 223**	**$ 1,420**	$ 76	$ 947
Amount required to settle contracts with termination triggers upon downgrade[(b)]	**184**	**1,475**	172	764

(a) Includes the additional collateral to be posted for initial margin.
(b) Amounts represent fair values of derivative payables, and do not reflect collateral posted.

Derivatives executed in contemplation of a sale of the underlying financial asset
In certain instances the Firm enters into transactions in which it transfers financial assets but maintains the economic exposure to the transferred assets by entering into a derivative with the same counterparty in contemplation of the initial transfer. The Firm generally accounts for such transfers as collateralized financing transactions as described in Note 10, but in limited circumstances they may qualify to be accounted for as a sale and a derivative under U.S. GAAP. The amount of such transfers accounted for as a sale where the associated derivative was outstanding was not material at both September 30, 2019 and December 31, 2018.

Impact of derivatives on the Consolidated statements of income

The following tables provide information related to gains and losses recorded on derivatives based on their hedge accounting designation or purpose.

Fair value hedge gains and losses

The following tables present derivative instruments, by contract type, used in fair value hedge accounting relationships, as well as pre-tax gains/(losses) recorded on such derivatives and the related hedged items for the three and nine months ended September 30, 2019 and 2018, respectively. The Firm includes gains/(losses) on the hedging derivative in the same line item in the Consolidated statements of income as the related hedged item.

	Gains/(losses) recorded in income			Income statement impact of excluded components[e]		OCI impact
Three months ended September 30, 2019 (in millions)	Derivatives	Hedged items	Income statement impact	Amortization approach	Changes in fair value	Derivatives - Gains/(losses) recorded in OCI[f]
Contract type						
Interest rate[a][b]	**$ 1,770**	**$ (1,550)**	**$ 220**	**$ –**	**$ 228**	**$ –**
Foreign exchange[c]	**(167)**	**293**	**126**	**(224)**	**126**	**(1)**
Commodity[d]	**278**	**(232)**	**46**	**–**	**49**	**–**
Total	**$ 1,881**	**$ (1,489)**	**$ 392**	**$ (224)**	**$ 403**	**$ (1)**

	Gains/(losses) recorded in income			Income statement impact of excluded components[e]		OCI impact
Three months ended September 30, 2018 (in millions)	Derivatives	Hedged items	Income statement impact	Amortization approach	Changes in fair value	Derivatives - Gains/(losses) recorded in OCI[f]
Contract type						
Interest rate[a][b]	$ (870)	$ 1,032	$ 162	$ –	$ 160	$ –
Foreign exchange[c]	277	(165)	112	(137)	112	45
Commodity[d]	454	(461)	(7)	–	(5)	–
Total	$ (139)	$ 406	$ 267	$ (137)	$ 267	$ 45

	Gains/(losses) recorded in income			Income statement impact of excluded components[e]		OCI impact
Nine months ended September 30, 2019 (in millions)	Derivatives	Hedged items	Income statement impact	Amortization approach	Changes in fair value	Derivatives - Gains/(losses) recorded in OCI[f]
Contract type						
Interest rate[a][b]	**$ 4,996**	**$ (4,399)**	**$ 597**	**$ –**	**$ 596**	**$ –**
Foreign exchange[c]	**(31)**	**401**	**370**	**(675)**	**370**	**114**
Commodity[d]	**(164)**	**237**	**73**	**–**	**67**	**–**
Total	**$ 4,801**	**$ (3,761)**	**$ 1,040**	**$ (675)**	**$ 1,033**	**$ 114**

	Gains/(losses) recorded in income			Income statement impact of excluded components[e]		OCI impact
Nine months ended September 30, 2018 (in millions)	Derivatives	Hedged items	Income statement impact	Amortization approach	Changes in fair value	Derivatives - Gains/(losses) recorded in OCI[f]
Contract type						
Interest rate[a][b]	**$ (2,747)**	**$ 3,214**	**$ 467**	**$ –**	**$ 459**	**$ –**
Foreign exchange[c]	**797**	**(452)**	**345**	**(404)**	**345**	**(96)**
Commodity[d]	**649**	**(626)**	**23**	**–**	**29**	**–**
Total	**$ (1,301)**	**$ 2,136**	**$ 835**	**$ (404)**	**$ 833**	**$ (96)**

(a) Primarily consists of hedges of the benchmark (e.g., London Interbank Offered Rate ("LIBOR")) interest rate risk of fixed-rate long-term debt and AFS securities. Gains and losses were recorded in net interest income.

(b) Excludes the amortization expense associated with the inception hedge accounting adjustment applied to the hedged item. This expense is recorded in net interest income and substantially offsets the income statement impact of the excluded components. Also excludes the accrual of interest on interest rate swaps and the related hedged items.

(c) Primarily consists of hedges of the foreign currency risk of long-term debt and AFS securities for changes in spot foreign currency rates. Gains and losses related to the derivatives and the hedged items due to changes in foreign currency rates and the income statement impact of excluded components were recorded primarily in principal transactions revenue and net interest income.

(d) Consists of overall fair value hedges of physical commodities inventories that are generally carried at the lower of cost or net realizable value (net realizable value approximates fair value). Gains and losses were recorded in principal transactions revenue.

(e) The assessment of hedge effectiveness excludes certain components of the changes in fair values of the derivatives and hedged items such as forward points on foreign exchange forward contracts, time values and cross-currency basis spreads. The initial amount of the excluded components may be amortized into income over the life of the derivative, or changes in fair value may be recognized in current period earnings.

(f) Represents the change in value of amounts excluded from the assessment of effectiveness under the amortization approach, predominantly cross-currency basis spreads. The amount excluded at inception of the hedge is recognized in earnings over the life of the derivative.

As of September 30, 2019 and December 31, 2018, the following amounts were recorded on the Consolidated balance sheets related to certain cumulative fair value hedge basis adjustments that are expected to reverse through the income statement in future periods as an adjustment to yield.

September 30, 2019 (in millions)	Carrying amount of the hedged items[a][b]	Cumulative amount of fair value hedging adjustments included in the carrying amount of hedged items: Active hedging relationships	Discontinued hedging relationships[d]	Total
Assets				
Investment securities - AFS	**$ 123,914** [c]	**$ 3,664**	**$ 261**	**$ 3,925**
Liabilities				
Long-term debt	**$ 163,494**	**$ 9,957**	**$ 125**	**$ 10,082**
Beneficial interests issued by consolidated VIEs	**2,362**	**–**	**(11)**	**(11)**

December 31, 2018 (in millions)	Carrying amount of the hedged items[a][b]	Cumulative amount of fair value hedging adjustments included in the carrying amount of hedged items: Active hedging relationships	Discontinued hedging relationships[d]	Total
Assets				
Investment securities - AFS	$ 55,313 [c]	$ (1,105)	$ 381	$ (724)
Liabilities				
Long-term debt	$ 139,915	$ 141	$ 8	$ 149
Beneficial interests issued by consolidated VIEs	6,987	–	(33)	(33)

(a) Excludes physical commodities with a carrying value of $10.3 billion and $6.8 billion at September 30, 2019 and December 31, 2018, respectively, to which the Firm applies fair value hedge accounting. As a result of the application of hedge accounting, these inventories are carried at fair value, thus recognizing unrealized gains and losses in current periods. Given the Firm exits these positions at fair value, there is no incremental impact to net income in future periods.

(b) Excludes hedged items where only foreign currency risk is the designated hedged risk, as basis adjustments related to foreign currency hedges will not reverse through the income statement in future periods. At September 30, 2019 and December 31, 2018, the carrying amount excluded for available-for-sale securities is $15.3 billion and $14.6 billion, respectively, and for long-term debt is $4.1 billion and $7.3 billion, respectively.

(c) Carrying amount represents the amortized cost.

(d) Represents hedged items no longer designated in qualifying fair value hedging relationships for which an associated basis adjustment exists at the balance sheet date.

Cash flow hedge gains and losses

The following tables present derivative instruments, by contract type, used in cash flow hedge accounting relationships, and the pre-tax gains/(losses) recorded on such derivatives, for the three and nine months ended September 30, 2019 and 2018, respectively. The Firm includes the gain/(loss) on the hedging derivative in the same line item in the Consolidated statements of income as the change in cash flows on the related hedged item.

	Derivatives gains/(losses) recorded in income and other comprehensive income/(loss)		
Three months ended September 30, 2019 (in millions)	Amounts reclassified from AOCI to income	Amounts recorded in OCI	Total change in OCI for period
Contract type			
Interest rate[a]	**$ (16)**	**$ 290**	**$ 306**
Foreign exchange[b]	**(21)**	**(68)**	**(47)**
Total	**$ (37)**	**$ 222**	**$ 259**

	Derivatives gains/(losses) recorded in income and other comprehensive income/(loss)		
Three months ended September 30, 2018 (in millions)	Amounts reclassified from AOCI to income	Amounts recorded in OCI	Total change in OCI for period
Contract type			
Interest rate[a]	$ 10	$ (30)	$ (40)
Foreign exchange[b]	(19)	(92)	(73)
Total	$ (9)	$ (122)	$ (113)

	Derivatives gains/(losses) recorded in income and other comprehensive income/(loss)		
Nine months ended September 30, 2019 (in millions)	Amounts reclassified from AOCI to income	Amounts recorded in OCI	Total change in OCI for period
Contract type			
Interest rate[a]	**$ (12)**	**$ 501**	**$ 513**
Foreign exchange[b]	**(90)**	**(37)**	**53**
Total	**$ (102)**	**$ 464**	**$ 566**

	Derivatives gains/(losses) recorded in income and other comprehensive income/(loss)		
Nine months ended September 30, 2018 (in millions)	Amounts reclassified from AOCI to income	Amounts recorded in OCI	Total change in OCI for period
Contract type			
Interest rate[a]	**$ 36**	**$ (141)**	**$ (177)**
Foreign exchange[b]	**26**	**(224)**	**(250)**
Total	**$ 62**	**$ (365)**	**$ (427)**

(a) Primarily consists of hedges of LIBOR-indexed floating-rate assets and floating-rate liabilities. Gains and losses were recorded in net interest income.
(b) Primarily consists of hedges of the foreign currency risk of non-U.S. dollar-denominated revenue and expense. The income statement classification of gains and losses follows the hedged item – primarily noninterest revenue and compensation expense.

The Firm did not experience any forecasted transactions that failed to occur for the three and nine months ended September 30, 2019 and 2018.

Over the next 12 months, the Firm expects that approximately $(130) million (after-tax) of net losses recorded in AOCI at September 30, 2019, related to cash flow hedges will be recognized in income. For cash flow hedges that have been terminated, the maximum length of time over which the derivative results recorded in AOCI will be recognized in earnings is approximately five years, corresponding to the timing of the originally hedged forecasted cash flows.

For open cash flow hedges, the maximum length of time over which forecasted transactions are hedged is approximately seven years. The Firm's longer-dated forecasted transactions relate to core lending and borrowing activities.

Net investment hedge gains and losses

The following table presents hedging instruments, by contract type, that were used in net investment hedge accounting relationships, and the pre-tax gains/(losses) recorded on such instruments for the three and nine months ended September 30, 2019 and 2018.

	Gains/(losses) recorded in income and other comprehensive income/(loss)			
	2019		2018	
Three months ended September 30, (in millions)	Amounts recorded in income[(a)(b)]	Amounts recorded in OCI	Amounts recorded in income[(a)(b)]	Amounts recorded in OCI
Foreign exchange derivatives	**$ 17**	**$ 866**	$ 2	$ 311

	Gains/(losses) recorded in income and other comprehensive income/(loss)			
	2019		2018	
Nine months ended September 30, (in millions)	Amounts recorded in income[(a)(b)]	Amounts recorded in OCI	Amounts recorded in income[(a)(b)(c)]	Amounts recorded in OCI
Foreign exchange derivatives	**$ 65**	**$ 705**	$ (8)	$ 1,126

(a) Certain components of hedging derivatives are permitted to be excluded from the assessment of hedge effectiveness, such as forward points on foreign exchange forward contracts. The Firm elects to record changes in fair value of these amounts directly in other income.
(b) Excludes amounts reclassified from AOCI to income on the sale or liquidation of hedged entities. During the nine months ended September 30, 2019, the Firm reclassified net pre-tax gains of $5 million to other income related to the liquidation of certain legal entities. During the nine months ended September 30, 2018, the Firm reclassified net pre-tax losses of $23 million to other expense related to the liquidation of a legal entity.
(c) The prior period amount has been revised to conform with the current period presentation.

Gains and losses on derivatives used for specified risk management purposes

The following table presents pre-tax gains/(losses) recorded on a limited number of derivatives, not designated in hedge accounting relationships, that are used to manage risks associated with certain specified assets and liabilities, including certain risks arising from the mortgage pipeline, warehouse loans, MSRs, wholesale lending exposures, and foreign currency-denominated assets and liabilities.

	Derivatives gains/(losses) recorded in income			
	Three months ended September 30,		Nine months ended September 30,	
(in millions)	**2019**	2018	**2019**	2018
Contract type				
Interest rate[(a)]	**$ 769**	$ (42)	**$ 1,718**	$ (277)
Credit[(b)]	**(21)**	(7)	**(33)**	(17)
Foreign exchange[(c)]	**40**	52	**15**	167 [(d)]
Total	**$ 788**	$ 3	**$ 1,700**	$ (127) [(d)]

(a) Primarily represents interest rate derivatives used to hedge the interest rate risk inherent in the mortgage pipeline, warehouse loans and MSRs, as well as written commitments to originate warehouse loans. Gains and losses were recorded predominantly in mortgage fees and related income.
(b) Relates to credit derivatives used to mitigate credit risk associated with lending exposures in the Firm's wholesale businesses. These derivatives do not include credit derivatives used to mitigate counterparty credit risk arising from derivative receivables, which is included in gains and losses on derivatives related to market-making activities and other derivatives. Gains and losses were recorded in principal transactions revenue.
(c) Primarily relates to derivatives used to mitigate foreign exchange risk of specified foreign currency-denominated assets and liabilities. Gains and losses were recorded in principal transactions revenue.
(d) The prior period amounts have been revised to conform with the current period presentation.

Gains and losses on derivatives related to market-making activities and other derivatives

The Firm makes markets in derivatives in order to meet the needs of customers and uses derivatives to manage certain risks associated with net open risk positions from its market-making activities, including the counterparty credit risk arising from derivative receivables. All derivatives not included in the hedge accounting or specified risk management categories above are included in this category. Gains and losses on these derivatives are primarily recorded in principal transactions revenue. Refer to Note 5 for information on principal transactions revenue.

Credit derivatives

Refer to Note 5 of JPMorgan Chase's 2018 Form 10-K for a more detailed discussion of credit derivatives. The Firm does not use notional amounts of credit derivatives as the primary measure of risk management for such derivatives, because the notional amount does not take into account the probability of the occurrence of a credit event, the recovery value of the reference obligation, or related cash instruments and economic hedges, each of which reduces, in the Firm's view, the risks associated with such derivatives.

Total credit derivatives and credit-related notes

	Maximum payout/Notional amount			
September 30, 2019 (in millions)	Protection sold	Protection purchased with identical underlyings[(b)]	Net protection (sold)/purchased[(c)]	Other protection purchased[(d)]
Credit derivatives				
Credit default swaps	**$ (610,946)**	**$ 623,709**	**$ 12,763**	**$ 3,630**
Other credit derivatives[(a)]	**(55,919)**	**61,847**	**5,928**	**8,503**
Total credit derivatives	**(666,865)**	**685,556**	**18,691**	**12,133**
Credit-related notes	–	–	–	**9,297**
Total	**$ (666,865)**	**$ 685,556**	**$ 18,691**	**$ 21,430**

	Maximum payout/Notional amount			
December 31, 2018 (in millions)	Protection sold	Protection purchased with identical underlyings[(b)]	Net protection (sold)/purchased[(c)]	Other protection purchased[(d)]
Credit derivatives				
Credit default swaps	$ (697,220)	$ 707,282	$ 10,062	$ 4,053
Other credit derivatives[(a)]	(41,244)	42,484	1,240	8,488
Total credit derivatives	(738,464)	749,766	11,302	12,541
Credit-related notes	–	–	–	8,425
Total	$ (738,464)	$ 749,766	$ 11,302	$ 20,966

(a) Other credit derivatives predominantly consist of credit swap options and total return swaps.
(b) Represents the total notional amount of protection purchased where the underlying reference instrument is identical to the reference instrument on protection sold; the notional amount of protection purchased for each individual identical underlying reference instrument may be greater or lower than the notional amount of protection sold.
(c) Does not take into account the fair value of the reference obligation at the time of settlement, which would generally reduce the amount the seller of protection pays to the buyer of protection in determining settlement value.
(d) Represents protection purchased by the Firm on referenced instruments (single-name, portfolio or index) where the Firm has not sold any protection on the identical reference instrument.

The following tables summarize the notional amounts by the ratings, maturity profile, and total fair value, of credit derivatives and credit-related notes as of September 30, 2019, and December 31, 2018, where JPMorgan Chase is the seller of protection. The maturity profile is based on the remaining contractual maturity of the credit derivative contracts. The ratings profile is based on the rating of the reference entity on which the credit derivative contract is based. The ratings and maturity profile of credit derivatives and credit-related notes where JPMorgan Chase is the purchaser of protection are comparable to the profile reflected below.

Protection sold – credit derivatives and credit-related notes ratings[(a)]/maturity profile

September 30, 2019 (in millions)	<1 year	1–5 years	>5 years	Total notional amount	Fair value of receivables[(b)]	Fair value of payables[(b)]	Net fair value
Risk rating of reference entity							
Investment-grade	**$ (106,698)**	**$ (316,946)**	**$ (75,615)**	**$ (499,259)**	**$ 5,621**	**$ (1,260)**	**$ 4,361**
Noninvestment-grade	**(39,180)**	**(103,249)**	**(25,177)**	**(167,606)**	**4,699**	**(3,415)**	**1,284**
Total	**$ (145,878)**	**$ (420,195)**	**$ (100,792)**	**$ (666,865)**	**$ 10,320**	**$ (4,675)**	**$ 5,645**

December 31, 2018 (in millions)	<1 year	1–5 years	>5 years	Total notional amount	Fair value of receivables[(b)]	Fair value of payables[(b)]	Net fair value
Risk rating of reference entity							
Investment-grade	$ (115,443)	$ (402,325)	$ (43,611)	$ (561,379)	$ 5,720	$ (2,791)	$ 2,929
Noninvestment-grade	(45,897)	(119,348)	(11,840)	(177,085)	4,719	(5,660)	(941)
Total	$ (161,340)	$ (521,673)	$ (55,451)	$ (738,464)	$ 10,439	$ (8,451)	$ 1,988

(a) The ratings scale is primarily based on external credit ratings defined by S&P and Moody's.
(b) Amounts are shown on a gross basis, before the benefit of legally enforceable master netting agreements and cash collateral received by the Firm.

Note 5 – Noninterest revenue and noninterest expense

Noninterest revenue

Refer to Note 6 of JPMorgan Chase's 2018 Form 10-K for a discussion of the components of and accounting policies for the Firm's noninterest revenue.

Investment banking fees

The following table presents the components of investment banking fees.

	Three months ended September 30,		Nine months ended September 30,	
(in millions)	**2019**	2018	**2019**	2018
Underwriting				
Equity	**$ 517**	$ 417	**$ 1,293**	$ 1,342
Debt	**955**	836	**2,720**	2,596
Total underwriting	**1,472**	1,253	**4,013**	3,938
Advisory	**495**	579	**1,645**	1,798
Total investment banking fees	**$ 1,967**	$ 1,832	**$ 5,658**	$ 5,736

Principal transactions

The following table presents all realized and unrealized gains and losses recorded in principal transactions revenue. This table excludes interest income and interest expense on trading assets and liabilities, which are an integral part of the overall performance of the Firm's client-driven market-making activities in CIB and cash deployment activities in Treasury and CIO. Refer to Note 6 for further information on interest income and interest expense.

Trading revenue is presented primarily by instrument type. The Firm's client-driven market-making businesses generally utilize a variety of instrument types in connection with their market-making and related risk-management activities; accordingly, the trading revenue presented in the table below is not representative of the total revenue of any individual line of business.

	Three months ended September 30,		Nine months ended September 30,	
(in millions)	**2019**	2018	**2019**	2018
Trading revenue by instrument type				
Interest rate	**$ 835**	$ 338	**$ 1,901**	$ 1,784
Credit	**328**	202	**1,375**	1,230
Foreign exchange	**892**	937	**2,509**	2,706
Equity	**1,003**	1,363	**4,530**	4,376
Commodity	**372**	277	**982**	800
Total trading revenue	**3,430**	3,117	**11,297**	10,896
Private equity gains/(losses)[a]	**19**	(153)	**(58)**	(198)
Principal transactions	**$ 3,449**	$ 2,964	**$11,239**	$10,698

(a) The third quarter of 2018 included markdowns of approximately $220 million on certain private equity investments in Corporate, with $170 million recorded within principal transactions revenue and $50 million in other income.

Lending- and deposit-related fees

The following table presents the components of lending- and deposit-related fees.

	Three months ended September 30,		Nine months ended September 30,	
(in millions)	**2019**	2018	**2019**	2018
Lending-related fees	**$ 286**	$ 284	**$ 861**	$ 838
Deposit-related fees	**1,340**	1,258	**3,782**	3,676
Total lending- and deposit-related fees	**$ 1,626**	$ 1,542	**$ 4,643**	$ 4,514

Asset management, administration and commissions

The following table presents the components of Firmwide asset management, administration and commissions.

	Three months ended September 30,		Nine months ended September 30,	
(in millions)	**2019**	2018	**2019**	2018
Asset management fees				
Investment management fees[a]	**$ 2,738**	$ 2,716	**$ 8,013**	$ 8,081
All other asset management fees[b]	**82**	79	**229**	211
Total asset management fees	**2,820**	2,795	**8,242**	8,292
Total administration fees[c]	**567**	533	**1,646**	1,651
Commissions and other fees				
Brokerage commissions	**634**	604	**1,861**	1,887
All other commissions and fees	**330**	378	**1,069**	1,093
Total commissions and fees	**964**	982	**2,930**	2,980
Total asset management, administration and commissions	**$ 4,351**	$ 4,310	**$12,818**	$12,923

(a) Represents fees earned from managing assets on behalf of the Firm's clients, including investors in Firm-sponsored funds and owners of separately managed investment accounts.
(b) Represents fees for services that are ancillary to investment management services, such as commissions earned on the sales or distribution of mutual funds to clients.
(c) Predominantly includes fees for custody, securities lending, funds services and securities clearance.

Card income

The following table presents the components of card income:

	Three months ended September 30,		Nine months ended September 30,	
(in millions)	**2019**	2018	**2019**	2018
Interchange and merchant processing income	**$ 5,127**	$ 4,781	**$ 15,032**	$ 13,863
Rewards costs and partner payments[a]	**(3,669)**	(3,276)	**(10,515)**	(9,687)
Other card income[b]	**(175)**	(177)	**(594)**	(553)
Total card income	**$ 1,283**	$ 1,328	**$ 3,923**	$ 3,623

(a) The three and nine months ended September 30, 2018, included an adjustment to the credit card rewards liability of approximately $330 million.
(b) Predominantly represents annual fees and new account origination costs, which are deferred and recognized on a straight-line basis over a 12-month period.

Refer to Note 14 Goodwill and MSRs for information on mortgage fees and related income.

Refer to Note 16 Leases for information on operating lease income included within other income.

Noninterest expense

Other expense

Other expense on the Firm's Consolidated statements of income included the following:

	Three months ended September 30,		Nine months ended September 30,	
(in millions)	**2019**	2018	**2019**	2018
Legal expense/(benefit)	**$ 10**	$ 20	**$ (2)**	$ 90
FDIC-related expense	**114**	349	**378**	1,100

Note 6 – Interest income and Interest expense

Refer to Note 7 of JPMorgan Chase's 2018 Form 10-K for a description of JPMorgan Chase's accounting policies regarding interest income and interest expense.

The following table presents the components of interest income and interest expense.

	Three months ended September 30,		Nine months ended September 30,	
(in millions)	**2019**	2018	**2019**	2018
Interest income				
Loans[(a)]	**$ 12,586**	$ 12,207	**$ 38,192**	$ 34,915
Taxable securities	**2,132**	1,402	**5,712**	4,098
Non-taxable securities[(b)]	**318**	394	**1,021**	1,199
Total investment securities[(a)]	**2,450**	1,796	**6,733**	5,297
Trading assets - debt instruments	**2,659**	2,155	**8,343**	6,369
Federal funds sold and securities purchased under resale agreements	**1,542**	952	**4,865**	2,490
Securities borrowed[(c)]	**434**	248	**1,298**	549
Deposits with banks	**898**	1,585	**3,200**	4,449
All other interest-earning assets[(c)(d)]	**552**	496	**1,482**	1,430
Total interest income[(c)]	**21,121**	19,439	**64,113**	55,499
Interest expense				
Interest-bearing deposits	**2,409**	1,621	**7,010**	4,021
Federal funds purchased and securities loaned or sold under repurchase agreements	**1,241**	827	**3,577**	2,164
Short-term borrowings[(e)]	**261**	288	**1,051**	757
Trading liabilities – debt and all other interest-bearing liabilities[(c)(f)]	**660**	617	**2,141**	1,674
Long-term debt	**2,188**	2,056	**6,796**	5,812
Beneficial interest issued by consolidated VIEs	**134**	122	**459**	366
Total interest expense[(c)]	**6,893**	5,531	**21,034**	14,794
Net interest income	**14,228**	13,908	**43,079**	40,705
Provision for credit losses	**1,514**	948	**4,158**	3,323
Net interest income after provision for credit losses	**$ 12,714**	$ 12,960	**$ 38,921**	$ 37,382

(a) Includes the amortization/accretion of unearned income (e.g., purchase premiums/discounts, net deferred fees/costs, etc.).

(b) Represents securities which are tax-exempt for U.S. federal income tax purposes.

(c) In the second quarter of 2019, the Firm implemented certain presentation changes that impacted interest income and interest expense, but had no effect on net interest income. These changes were made to align the accounting treatment between the balance sheet and the related interest income or expense, primarily by offsetting interest income and expense for certain prime brokerage-related held-for-investment customer receivables and payables that are currently presented as a single margin account on the balance sheet. These changes were applied retrospectively and, accordingly, prior period amounts were revised to conform with the current presentation.

(d) Includes prime brokerage-related held-for-investment customer receivables, which are classified in accrued interest and accounts receivable, and all other interest-earning assets which are classified in other assets on the Consolidated balance sheets.

(e) Includes commercial paper.

(f) Other interest-bearing liabilities include prime brokerage-related customer payables.

Note 7 – Pension and other postretirement employee benefit plans

Refer to Note 8 of JPMorgan Chase's 2018 Form 10-K for a discussion of JPMorgan Chase's pension and OPEB plans.

The following table presents the components of net periodic benefit costs reported in the Consolidated statements of income for the Firm's U.S. and non-U.S. defined benefit pension, defined contribution and OPEB plans.

	Three months ended September 30,				Nine months ended September 30,			
	2019	2018	**2019**	2018	**2019**	2018	**2019**	2018
(in millions)	Pension plans		OPEB plans		Pension plans		OPEB plans	
Components of net periodic benefit cost								
Benefits earned during the period	**$ 88**	$ 88	**$ –**	$ –	**$ 266**	$ 267	**$ –**	$ –
Interest cost on benefit obligations	**148**	139	**6**	6	**447**	417	**18**	18
Expected return on plan assets	**(227)**	(246)	**(28)**	(25)	**(686)**	(741)	**(84)**	(77)
Amortization:								
Net (gain)/loss	**42**	26	**–**	–	**125**	78	**–**	–
Prior service (credit)/cost	**–**	(7)	**–**	–	**2**	(19)	**–**	–
Net periodic defined benefit cost	**51**	–	**(22)**	(19)	**154**	2	**(66)**	(59)
Other defined benefit pension plans[(a)]	**7**	6	**NA**	NA	**20**	21	**NA**	NA
Total defined benefit plans	**58**	6	**(22)**	(19)	**174**	23	**(66)**	(59)
Total defined contribution plans	**255**	229	**NA**	NA	**718**	661	**NA**	NA
Total pension and OPEB cost included in noninterest expense	**$ 313**	$ 235	**$ (22)**	$ (19)	**$ 892**	$ 684	**$ (66)**	$ (59)

(a) Includes various defined benefit pension plans which are individually immaterial.

The following table presents the fair values of plan assets for the U.S. defined benefit pension and OPEB plans and for the material non-U.S. defined benefit pension plans.

(in billions)	**September 30, 2019**	December 31, 2018
Fair value of plan assets		
Defined benefit pension plans	**$ 20.1**	$ 18.1
OPEB plans	**2.9**	2.6

There are no expected contributions to the U.S. defined benefit pension plan for 2019.

Note 8 – Employee share-based incentives

Refer to Note 9 of JPMorgan Chase's 2018 Form 10-K for a discussion of the accounting policies and other information relating to employee share-based incentives.

The Firm recognized the following noncash compensation expense related to its various employee share-based incentive plans in its Consolidated statements of income.

	Three months ended September 30,		Nine months ended September 30,	
(in millions)	**2019**	2018	**2019**	2018
Cost of prior grants of RSUs, performance share units ("PSUs") and stock appreciation rights ("SARs") that are amortized over their applicable vesting periods	**$ 265**	$ 282	**$ 882**	$ 956
Accrual of estimated costs of share-based awards to be granted in future periods including those to full-career eligible employees	**294**	240	**900**	852
Total noncash compensation expense related to employee share-based incentive plans	**$ 559**	$ 522	**$1,782**	$ 1,808

In the first quarter of 2019, in connection with its annual incentive grant for the 2018 performance year, the Firm granted 21 million RSUs and 630 thousand PSUs with weighted-average grant date fair values of $98.98 per RSU and $98.96 per PSU.

Note 9 – Investment securities

Investment securities consist of debt securities that are classified as AFS or HTM. Debt securities classified as trading assets are discussed in Note 2. Predominantly all of the Firm's AFS and HTM securities are held by Treasury and CIO in connection with its asset-liability management activities. At September 30, 2019, the investment securities portfolio consisted of debt securities with an average credit rating of AA+ (based upon external ratings where available, and where not available, based primarily upon internal ratings which correspond to ratings as defined by S&P and Moody's). Refer to Note 10 of JPMorgan Chase's 2018 Form 10-K for additional information regarding the investment securities portfolio.

The amortized costs and estimated fair values of the investment securities portfolio were as follows for the dates indicated.

	September 30, 2019				December 31, 2018			
(in millions)	Amortized cost	Gross unrealized gains	Gross unrealized losses	Fair value	Amortized cost	Gross unrealized gains	Gross unrealized losses	Fair value
Available-for-sale securities								
Mortgage-backed securities:								
U.S. GSEs and government agencies[(a)]	**$ 103,086**	**$ 2,556**	**$ 61**	**$ 105,581**	$ 69,026	$ 594	$ 974	$ 68,646
Residential:								
U.S.	**10,083**	**273**	**6**	**10,350**	5,877	79	31	5,925
Non-U.S.	**2,490**	**64**	**2**	**2,552**	2,529	72	6	2,595
Commercial	**5,228**	**100**	**4**	**5,324**	6,758	43	147	6,654
Total mortgage-backed securities	**120,887**	**2,993**	**73**	**123,807**	84,190	788	1,158	83,820
U.S. Treasury and government agencies	**141,646**	**376**	**493**	**141,529**	55,771	366	78	56,059
Obligations of U.S. states and municipalities	**28,871**	**2,193**	**—**	**31,064**	36,221	1,582	80	37,723
Certificates of deposit	**74**	**—**	**—**	**74**	75	—	—	75
Non-U.S. government debt securities	**21,644**	**524**	**10**	**22,158**	23,771	351	20	24,102
Corporate debt securities	**1,596**	**39**	**1**	**1,634**	1,904	23	9	1,918
Asset-backed securities:								
Collateralized loan obligations	**27,942**	**18**	**52**	**27,908**	19,612	1	176	19,437
Other	**5,199**	**57**	**9**	**5,247**	7,225	57	22	7,260
Total available-for-sale securities	**347,859**	**6,200**	**638**	**353,421**	228,769	3,168	1,543	230,394
Held-to-maturity securities								
Mortgage-backed securities:								
U.S. GSEs and government agencies[(a)]	**35,976**	**1,250**	**20**	**37,206**	26,610	134	200	26,544
Total mortgage-backed securities	**35,976**	**1,250**	**20**	**37,206**	26,610	134	200	26,544
U.S. Treasury and government agencies	**51**	**—**	**—**	**51**	—	—	—	—
Obligations of U.S. states and municipalities	**4,803**	**317**	**—**	**5,120**	4,824	105	15	4,914
Total held-to-maturity securities	**40,830**	**1,567**	**20**	**42,377**	31,434	239	215	31,458
Total investment securities	**$ 388,689**	**$ 7,767**	**$ 658**	**$ 395,798**	$ 260,203	$ 3,407	$ 1,758	$ 261,852

(a) Includes AFS U.S. GSE obligations with fair values of $78.8 billion and $50.7 billion, and HTM U.S. GSE obligations with amortized cost of $30.8 billion and $20.9 billion, at September 30, 2019, and December 31, 2018, respectively. As of September 30, 2019, mortgage-backed securities issued by Fannie Mae and Freddie Mac each exceeded 10% of JPMorgan Chase's total stockholders' equity; the amortized cost and fair value of such securities was $69.8 billion and $72.0 billion, and $37.8 billion and $38.8 billion, respectively.

Investment securities impairment

The following tables present the fair value and gross unrealized losses for investment securities by aging category at September 30, 2019, and December 31, 2018.

	Investment securities with gross unrealized losses					
	Less than 12 months		12 months or more			
September 30, 2019 (in millions)	Fair value	Gross unrealized losses	Fair value	Gross unrealized losses	Total fair value	Total gross unrealized losses
Available-for-sale securities						
Mortgage-backed securities:						
U.S. GSEs and government agencies	$ 8,505	$ 37	$ 2,952	$ 24	$ 11,457	$ 61
Residential:						
U.S.	–	–	558	6	558	6
Non-U.S.	47	–	472	2	519	2
Commercial	752	4	165	–	917	4
Total mortgage-backed securities	9,304	41	4,147	32	13,451	73
U.S. Treasury and government agencies	84,152	489	540	4	84,692	493
Obligations of U.S. states and municipalities	41	–	23	–	64	–
Certificates of deposit	74	–	–	–	74	–
Non-U.S. government debt securities	3,189	6	1,357	4	4,546	10
Corporate debt securities	83	–	36	1	119	1
Asset-backed securities:						
Collateralized loan obligations	7,086	8	6,684	44	13,770	52
Other	506	3	1,598	6	2,104	9
Total available-for-sale securities	104,435	547	14,385	91	118,820	638
Held-to-maturity securities						
Mortgage-backed securities						
U.S. GSEs and government agencies	2,240	20	86	–	2,326	20
Total mortgage-backed securities	2,240	20	86	–	2,326	20
U.S. Treasury and government agencies	51	–	–	–	51	–
Obligations of U.S. states and municipalities	–	–	–	–	–	–
Total held-to-maturity securities	2,291	20	86	–	2,377	20
Total investment securities with gross unrealized losses	$ 106,726	$ 567	$ 14,471	$ 91	$ 121,197	$ 658

December 31, 2018 (in millions)	Investment securities with gross unrealized losses					
	Less than 12 months		12 months or more			
	Fair value	Gross unrealized losses	Fair value	Gross unrealized losses	Total fair value	Total gross unrealized losses
Available-for-sale securities						
Mortgage-backed securities:						
U.S. GSEs and government agencies	$ 17,656	$ 318	$ 22,728	$ 656	$ 40,384	$ 974
Residential:						
U.S.	623	4	1,445	27	2,068	31
Non-U.S.	907	5	165	1	1,072	6
Commercial	974	6	3,172	141	4,146	147
Total mortgage-backed securities	20,160	333	27,510	825	47,670	1,158
U.S. Treasury and government agencies	4,792	7	2,391	71	7,183	78
Obligations of U.S. states and municipalities	1,808	15	2,477	65	4,285	80
Certificates of deposit	75	–	–	–	75	–
Non-U.S. government debt securities	3,123	5	1,937	15	5,060	20
Corporate debt securities	478	8	37	1	515	9
Asset-backed securities:						
Collateralized loan obligations	18,681	176	–	–	18,681	176
Other	1,208	6	2,354	16	3,562	22
Total available-for-sale securities	50,325	550	36,706	993	87,031	1,543
Held-to-maturity securities						
Mortgage-backed securities						
U.S. GSEs and government agencies	4,385	23	7,082	177	11,467	200
Total mortgage-backed securities	4,385	23	7,082	177	11,467	200
U.S. Treasury and government agencies	–	–	–	–	–	–
Obligations of U.S. states and municipalities	12	–	1,114	15	1,126	15
Total held-to-maturity securities	4,397	23	8,196	192	12,593	215
Total investment securities with gross unrealized losses	$ 54,722	$ 573	$ 44,902	$ 1,185	$ 99,624	$ 1,758

Other-than-temporary impairment

The Firm recognizes unrealized losses on investment securities that it intends to sell as OTTI. The Firm does not intend to sell any of the remaining investment securities with an unrealized loss in AOCI as of September 30, 2019, and it is not likely that the Firm will be required to sell these securities before recovery of their amortized cost basis. Further, the Firm did not recognize any credit-related OTTI losses during the nine months ended September 30, 2019 and 2018. Accordingly, the Firm believes that the investment securities with an unrealized loss in AOCI as of September 30, 2019, are not other-than-temporarily impaired. Refer to Note 10 of JPMorgan Chase's 2018 Form 10-K for additional information on other-than-temporary impairment.

Investment securities gains and losses

The following table presents realized gains and losses and OTTI from AFS securities that were recognized in income.

(in millions)	Three months ended September 30,		Nine months ended September 30,	
	2019	2018	**2019**	2018
Realized gains	**$ 78**	$ 58	**$ 454**	$ 137
Realized losses	**–**	(103)	**(319)**	(507)
OTTI losses[(a)]	**–**	(1)	**–**	(1)
Net investment securities gains/(losses)	**$ 78**	$ (46)	**$ 135**	$ (371)

(a) Represents OTTI losses recognized in income on investment securities the Firm intends to sell. Excludes realized losses on securities sold of $21 million for the nine months ended September 30, 2018 that had been previously reported as an OTTI loss due to the intention to sell the securities.

Changes in the credit loss component of credit-impaired debt securities

The cumulative credit loss component, including any changes therein, of OTTI losses that have been recognized in income related to AFS securities was not material as of and during the nine month periods ended September 30, 2019 and 2018.

Contractual maturities and yields

The following table presents the amortized cost and estimated fair value at September 30, 2019, of JPMorgan Chase's investment securities portfolio by contractual maturity.

By remaining maturity September 30, 2019 (in millions)	Due in one year or less	Due after one year through five years	Due after five years through 10 years	Due after 10 years[(b)]	Total
Available-for-sale securities					
Mortgage-backed securities					
Amortized cost	$ 14	$ 59	$ 10,230	$ 110,584	$ 120,887
Fair value	14	60	10,476	113,257	123,807
Average yield[(a)]	3.59%	2.73%	2.92%	3.45%	3.40%
U.S. Treasury and government agencies					
Amortized cost	$ 10,904	$ 95,139	$ 25,557	$ 10,046	$ 141,646
Fair value	10,901	95,231	25,659	9,738	141,529
Average yield[(a)]	1.99%	1.96%	2.02%	2.04%	1.98%
Obligations of U.S. states and municipalities					
Amortized cost	$ 170	$ 228	$ 1,089	$ 27,384	$ 28,871
Fair value	172	236	1,135	29,521	31,064
Average yield[(a)]	3.32%	4.00%	5.60%	4.94%	4.95%
Certificates of deposit					
Amortized cost	$ 74	$ –	$ –	$ –	$ 74
Fair value	74	–	–	–	74
Average yield[(a)]	0.49%	–%	–%	–%	0.49%
Non-U.S. government debt securities					
Amortized cost	$ 6,342	$ 11,580	$ 3,416	$ 306	$ 21,644
Fair value	6,350	11,870	3,633	305	22,158
Average yield[(a)]	2.23%	1.99%	1.34%	1.67%	1.95%
Corporate debt securities					
Amortized cost	$ 216	$ 718	$ 662	$ –	$ 1,596
Fair value	218	737	679	–	1,634
Average yield[(a)]	4.83%	3.91%	3.78%	–%	3.98%
Asset-backed securities					
Amortized cost	$ –	$ 1,873	$ 9,411	$ 21,857	$ 33,141
Fair value	–	1,876	9,412	21,867	33,155
Average yield[(a)]	–%	2.94%	3.17%	3.03%	3.06%
Total available-for-sale securities					
Amortized cost	$ 17,720	$ 109,597	$ 50,365	$ 170,177	$ 347,859
Fair value	17,729	110,010	50,994	174,688	353,421
Average yield[(a)]	2.12%	2.00%	2.47%	3.55%	2.83%
Held-to-maturity securities					
Mortgage-backed securities					
Amortized cost	$ –	$ –	$ 4,655	$ 31,321	$ 35,976
Fair value	–	–	5,049	32,157	37,206
Average yield[(a)]	–%	–%	3.29%	3.12%	3.14%
U.S. Treasury and government agencies					
Amortized cost	$ –	$ 51	$ –	$ –	$ 51
Fair value	–	51	–	–	51
Average yield[(a)]	–%	1.47%	–%	–%	1.47%
Obligations of U.S. states and municipalities					
Amortized cost	$ –	$ –	$ 55	$ 4,748	$ 4,803
Fair value	–	–	58	5,062	5,120
Average yield[(a)]	–%	–%	3.89%	4.02%	4.02%
Total held-to-maturity securities					
Amortized cost	$ –	$ 51	$ 4,710	$ 36,069	$ 40,830
Fair value	–	51	5,107	37,219	42,377
Average yield[(a)]	–%	1.47%	3.30%	3.24%	3.24%

(a) Average yield is computed using the effective yield of each security owned at the end of the period, weighted based on the amortized cost of each security. The effective yield considers the contractual coupon, amortization of premiums and accretion of discounts, and the effect of related hedging derivatives. Taxable-equivalent amounts are used where applicable. The effective yield excludes unscheduled principal prepayments; and accordingly, actual maturities of securities may differ from their contractual or expected maturities as certain securities may be prepaid.

(b) Substantially all of the Firm's U.S. residential MBS and collateralized mortgage obligations are due in 10 years or more, based on contractual maturity. The estimated weighted-average life, which reflects anticipated future prepayments, is approximately 5 years for agency residential MBS, 3 years for agency residential collateralized mortgage obligations and 3 years for nonagency residential collateralized mortgage obligations.

Note 10 – Securities financing activities

Refer to Note 11 of JPMorgan Chase's 2018 Form 10-K for a discussion of accounting policies relating to securities financing activities. Refer to Note 3 for further information regarding securities borrowed and securities lending agreements for which the fair value option has been elected. Refer to Note 23 for further information regarding assets pledged and collateral received in securities financing agreements.

The table below summarizes the gross and net amounts of the Firm's securities financing agreements as of September 30, 2019 and December 31, 2018. When the Firm has obtained an appropriate legal opinion with respect to a master netting agreement with a counterparty and where other relevant netting criteria under U.S. GAAP are met, the Firm nets, on the Consolidated balance sheets, the balances outstanding under its securities financing agreements with the same counterparty. In addition, the Firm exchanges securities and/or cash collateral with its counterparty to reduce the economic exposure with the counterparty, but such collateral is not eligible for net Consolidated balance sheet presentation. Where the Firm has obtained an appropriate legal opinion with respect to the counterparty master netting agreement, such collateral, along with securities financing balances that do not meet all these relevant netting criteria under U.S. GAAP, is presented in the table below as "Amounts not nettable on the Consolidated balance sheets," and reduces the "Net amounts" presented. Where a legal opinion has not been either sought or obtained, the securities financing balances are presented gross in the "Net amounts" below.

	September 30, 2019				
(in millions)	Gross amounts	Amounts netted on the Consolidated balance sheets	Amounts presented on the Consolidated balance sheets[b]	Amounts not nettable on the Consolidated balance sheets[c]	Net amounts[d]
Assets					
Securities purchased under resale agreements	**$ 630,033**	**$ (372,650)**	**$ 257,383**	**$ (244,241)**	**$ 13,142**
Securities borrowed	**160,304**	**(21,968)**	**138,336**	**(104,517)**	**33,819**
Liabilities					
Securities sold under repurchase agreements	**$ 608,618**	**$ (372,650)**	**$ 235,968**	**$ (213,150)**	**$ 22,818**
Securities loaned and other[a]	**34,104**	**(21,968)**	**12,136**	**(11,878)**	**258**

	December 31, 2018				
(in millions)	Gross amounts	Amounts netted on the Consolidated balance sheets	Amounts presented on the Consolidated balance sheets[b]	Amounts not nettable on the Consolidated balance sheets[c]	Net amounts[d]
Assets					
Securities purchased under resale agreements	$ 691,116	$ (369,612)	$ 321,504	$ (308,854)	$ 12,650
Securities borrowed	132,955	(20,960)	111,995	(79,747)	32,248
Liabilities					
Securities sold under repurchase agreements	$ 541,587	$ (369,612)	$ 171,975	$ (149,125)	$ 22,850
Securities loaned and other[a]	33,700	(20,960)	12,740	(12,358)	382

(a) Includes securities-for-securities lending agreements of $2.4 billion and $3.3 billion at September 30, 2019 and December 31, 2018, respectively, accounted for at fair value, where the Firm is acting as lender. In the Consolidated balance sheets, the Firm recognizes the securities received at fair value within other assets and the obligation to return those securities within accounts payable and other liabilities.

(b) Includes securities financing agreements accounted for at fair value. At September 30, 2019 and December 31, 2018, included securities purchased under resale agreements of $13.7 billion and $13.2 billion, respectively; securities sold under repurchase agreements of $933 million and $935 million, respectively; and securities borrowed of $5.8 billion and $5.1 billion, respectively. There were no securities loaned accounted for at fair value in either period.

(c) In some cases, collateral exchanged with a counterparty exceeds the net asset or liability balance with that counterparty. In such cases, the amounts reported in this column are limited to the related net asset or liability with that counterparty.

(d) Includes securities financing agreements that provide collateral rights, but where an appropriate legal opinion with respect to the master netting agreement has not been either sought or obtained. At September 30, 2019 and December 31, 2018, included $9.1 billion and $7.9 billion, respectively, of securities purchased under resale agreements; $30.6 billion and $30.3 billion, respectively, of securities borrowed; $21.9 billion and $21.5 billion, respectively, of securities sold under repurchase agreements; and $96 million and $25 million, respectively, of securities loaned and other.

The tables below present as of September 30, 2019, and December 31, 2018 the types of financial assets pledged in securities financing agreements and the remaining contractual maturity of the securities financing agreements.

(in millions)	Gross liability balance			
	September 30, 2019		December 31, 2018	
	Securities sold under repurchase agreements	Securities loaned and other	Securities sold under repurchase agreements	Securities loaned and other
Mortgage-backed securities				
U.S. GSEs and government agencies	**$ 33,399**	**$ –**	$ 34,311 [(a)]	$ –
Residential - nonagency	**1,804**	**–**	2,165	–
Commercial - nonagency	**1,778**	**–**	1,390	–
U.S. Treasury, GSEs and government agencies	**366,820**	**8**	317,578 [(a)]	69
Obligations of U.S. states and municipalities	**1,400**	**–**	1,150	–
Non-U.S. government debt	**165,568**	**1,769**	154,900	4,313
Corporate debt securities	**13,067**	**1,361**	13,898	428
Asset-backed securities	**1,746**	**–**	3,867	–
Equity securities	**23,036**	**30,966**	12,328	28,890
Total	**$ 608,618**	**$ 34,104**	$ 541,587	$ 33,700

(a) The prior period amounts have been revised to conform with the current period presentation.

September 30, 2019 (in millions)	Remaining contractual maturity of the agreements				
	Overnight and continuous	Up to 30 days	30 – 90 days	Greater than 90 days	Total
Total securities sold under repurchase agreements	**$ 336,082**	**$ 132,662**	**$ 53,504**	**$ 86,370**	**$ 608,618**
Total securities loaned and other	**30,172**	**231**	**748**	**2,953**	**34,104**

December 31, 2018 (in millions)	Remaining contractual maturity of the agreements				
	Overnight and continuous	Up to 30 days	30 – 90 days	Greater than 90 days	Total
Total securities sold under repurchase agreements	$ 247,579	$ 174,971	$ 71,637	$ 47,400	$ 541,587
Total securities loaned and other	28,402	997	2,132	2,169	33,700

Transfers not qualifying for sale accounting

At September 30, 2019, and December 31, 2018, the Firm held $654 million and $2.1 billion, respectively, of financial assets for which the rights have been transferred to third parties; however, the transfers did not qualify as a sale in accordance with U.S. GAAP. These transfers have been recognized as collateralized financing transactions. The transferred assets are recorded in trading assets and loans, and the corresponding liabilities are recorded predominantly in short-term borrowings on the Consolidated balance sheets. The prior period amount has been revised to conform with the current period presentation.

Note 11 – Loans

Loan accounting framework

The accounting for a loan depends on management's strategy for the loan, and on whether the loan was credit-impaired at the date of acquisition. The Firm accounts for loans based on the following categories:

- Originated or purchased loans held-for-investment (i.e., "retained"), other than PCI loans
- Loans held-for-sale
- Loans at fair value
- PCI loans held-for-investment

Refer to Note 12 of JPMorgan Chase's 2018 Form 10-K for a detailed discussion of loans, including accounting policies. Refer to Note 3 of this Form 10-Q for further information on the Firm's elections of fair value accounting under the fair value option. Refer to Note 2 of this Form 10-Q for information on loans carried at fair value and classified as trading assets.

Loan portfolio

The Firm's loan portfolio is divided into three portfolio segments, which are the same segments used by the Firm to determine the allowance for loan losses: Consumer, excluding credit card; Credit card; and Wholesale. Within each portfolio segment the Firm monitors and assesses the credit risk in the following classes of loans, based on the risk characteristics of each loan class.

Consumer, excluding credit card[(a)]	Credit card	Wholesale[(f)]
Residential real estate – excluding PCI • Residential mortgage[(b)] • Home equity[(c)] Other consumer loans[(d)] • Auto • Consumer & Business Banking[(e)] Residential real estate – PCI • Home equity • Prime mortgage • Subprime mortgage • Option ARMs	• Credit card loans	• Commercial and industrial • Real estate • Financial institutions • Governments & Agencies • Other[(g)]

(a) Includes loans held in CCB, scored prime mortgage and scored home equity loans held in AWM and prime mortgage loans held in Corporate.
(b) Predominantly includes prime loans (including option ARMs).
(c) Includes senior and junior lien home equity loans.
(d) Includes certain business banking and auto dealer risk-rated loans that apply the wholesale methodology for determining the allowance for loan losses; these loans are managed by CCB, and therefore, for consistency in presentation, are included with the other consumer loan classes.
(e) Predominantly includes Business Banking loans.
(f) Includes loans held in CIB, CB, AWM and Corporate. Excludes scored prime mortgage and scored home equity loans held in AWM and prime mortgage loans held in Corporate. Classes are internally defined and may not align with regulatory definitions.
(g) Includes loans to: individuals and individual entities (predominantly consists of Wealth Management clients within AWM and includes exposure to personal investment companies and personal and testamentary trusts), SPEs and Private education and civic organizations. Refer to Note 14 of JPMorgan Chase's 2018 Form 10-K for more information on SPEs.

The following tables summarize the Firm's loan balances by portfolio segment.

September 30, 2019 (in millions)	Consumer, excluding credit card	Credit card[(a)]	Wholesale	Total
Retained	$ 331,809	$ 159,571	$ 437,507	$ 928,887 [(b)]
Held-for-sale	4,821	–	5,750	10,571
At fair value	–	–	5,760	5,760
Total	**$ 336,630**	**$ 159,571**	**$ 449,017**	**$ 945,218**

December 31, 2018 (in millions)	Consumer, excluding credit card	Credit card[(a)]	Wholesale	Total
Retained	$ 373,637	$ 156,616	$ 439,162	$ 969,415 [(b)]
Held-for-sale	95	16	11,877	11,988
At fair value	–	–	3,151	3,151
Total	$ 373,732	$ 156,632	$ 454,190	$ 984,554

(a) Includes accrued interest and fees net of an allowance for the uncollectible portion of accrued interest and fee income.
(b) Loans (other than PCI loans and loans for which the fair value option has been elected) are presented net of unamortized discounts and premiums and net deferred loan fees or costs. These amounts were not material as of September 30, 2019, and December 31, 2018.

The following tables provide information about the carrying value of retained loans purchased, sold and reclassified to held-for-sale during the periods indicated. Reclassifications of loans to held-for sale are non-cash transactions. The Firm manages its exposure to credit risk on an ongoing basis. Selling loans is one way that the Firm reduces its credit exposures. Loans that were reclassified to held-for-sale and sold in a subsequent period are excluded from the sales line of this table.

Three months ended September 30, (in millions)	2019				2018			
	Consumer, excluding credit card	Credit card	Wholesale	Total	Consumer, excluding credit card	Credit card	Wholesale	Total
Purchases	$ 259 (a)(b)	$ –	$ 453	$ 712	$ 561 (a)(b)	$ –	$ 285	$ 846
Sales	14,970	–	5,559	20,529	1,789	–	4,197	5,986
Retained loans reclassified to held-for-sale	3,889	–	359	4,248	–	–	666	666

Nine months ended September 30, (in millions)	2019				2018			
	Consumer, excluding credit card	Credit card	Wholesale	Total	Consumer, excluding credit card	Credit card	Wholesale	Total
Purchases	$ 1,044 (a)(b)	$ –	$ 1,041	$ 2,085	$ 2,164 (a)(b)	$ –	$ 1,915	$ 4,079
Sales	30,484	–	16,404	46,888	4,661	–	12,829	17,490
Retained loans reclassified to held-for-sale	8,950	–	1,784	10,734	36	–	1,926	1,962

(a) Purchases predominantly represent the Firm's voluntary repurchase of certain delinquent loans from loan pools as permitted by Government National Mortgage Association ("Ginnie Mae") guidelines. The Firm typically elects to repurchase these delinquent loans as it continues to service them and/or manage the foreclosure process in accordance with applicable requirements of Ginnie Mae, FHA, RHS, and/or VA.
(b) Excludes purchases of retained loans sourced through the correspondent origination channel and underwritten in accordance with the Firm's standards. Such purchases were $4.7 billion and $5.6 billion for the three months ended September 30, 2019 and 2018, respectively, and $12.2 billion and $14.5 billion for the nine months ended September 30, 2019 and 2018, respectively.

Gains and losses on sales of loans

Net gains on sales of loans (including adjustments to record loans held-for-sale at the lower of cost or fair value) recognized in noninterest revenue were $254 million and $433 million, for the three and nine months ended September 30, 2019, respectively. Gains and losses on sales of loans were not material for the three and nine months ended September 30, 2018. In addition, the sale of loans may also result in write downs, recoveries or changes in the allowance recognized in the provision for credit losses.

Consumer, excluding credit card loan portfolio

Consumer loans, excluding credit card loans, consist primarily of residential mortgages, home equity loans and lines of credit, auto loans and consumer and business banking loans, with a focus on serving the prime consumer credit market. The portfolio also includes home equity loans secured by junior liens, prime mortgage loans with an interest-only payment period and certain payment-option loans that may result in negative amortization.

The following table provides information about retained consumer loans, excluding credit card, by class.

(in millions)	September 30, 2019	December 31, 2018
Residential real estate – excluding PCI		
Residential mortgage	$ 197,456	$ 231,078
Home equity	24,954	28,340
Other consumer loans		
Auto	61,410	63,573
Consumer & Business Banking	26,699	26,612
Residential real estate – PCI		
Home equity	7,753	8,963
Prime mortgage	4,164	4,690
Subprime mortgage	1,797	1,945
Option ARMs	7,576	8,436
Total retained loans	$ 331,809	$ 373,637

Refer to Note 12 of JPMorgan Chase's 2018 Form 10-K for further information on consumer credit quality indicators.

Residential real estate – excluding PCI loans

The following table provides information by class for retained residential real estate – excluding PCI loans.

Residential real estate – excluding PCI loans

	Residential mortgage		Home equity		Total residential real estate – excluding PCI	
(in millions, except ratios)	**Sep 30, 2019**	Dec 31, 2018	**Sep 30, 2019**	Dec 31, 2018	**Sep 30, 2019**	Dec 31, 2018
Loan delinquency[(a)]						
Current	**$ 196,354**	$ 225,899	**$ 24,398**	$ 27,611	**$ 220,752**	$ 253,510
30–149 days past due	**691**	2,763	**355**	453	**1,046**	3,216
150 or more days past due	**411**	2,416	**201**	276	**612**	2,692
Total retained loans	**$ 197,456**	$ 231,078	**$ 24,954**	$ 28,340	**$ 222,410**	$ 259,418
% of 30+ days past due to total retained loans[(b)]	**0.53%**	0.48%	**2.23%**	2.57%	**0.72%**	0.71%
90 or more days past due and government guaranteed[(c)]	**$ 40**	$ 2,541	**$ –**	$ –	**$ 40**	$ 2,541
Nonaccrual loans	**1,629**	1,765	**1,208**	1,323	**2,837**	3,088
Current estimated LTV ratios[(d)(e)]						
Greater than 125% and refreshed FICO scores:						
Equal to or greater than 660	**$ 25**	$ 25	**$ 4**	$ 6	**$ 29**	$ 31
Less than 660	**20**	13	**2**	1	**22**	14
101% to 125% and refreshed FICO scores:						
Equal to or greater than 660	**22**	37	**68**	111	**90**	148
Less than 660	**35**	53	**23**	38	**58**	91
80% to 100% and refreshed FICO scores:						
Equal to or greater than 660	**4,650**	3,977	**697**	986	**5,347**	4,963
Less than 660	**212**	281	**214**	326	**426**	607
Less than 80% and refreshed FICO scores:						
Equal to or greater than 660	**185,438**	212,505	**20,394**	22,632	**205,832**	235,137
Less than 660	**6,035**	6,457	**2,842**	3,355	**8,877**	9,812
No FICO/LTV available	**952**	813	**710**	885	**1,662**	1,698
U.S. government-guaranteed	**67**	6,917	**–**	–	**67**	6,917
Total retained loans	**$ 197,456**	$ 231,078	**$ 24,954**	$ 28,340	**$ 222,410**	$ 259,418
Geographic region[(f)]						
California	**$ 66,166**	$ 74,759	**$ 5,074**	$ 5,695	**$ 71,240**	$ 80,454
New York	**25,442**	28,847	**5,074**	5,769	**30,516**	34,616
Illinois	**13,304**	15,249	**1,868**	2,131	**15,172**	17,380
Texas	**12,345**	13,769	**1,640**	1,819	**13,985**	15,588
Florida	**10,195**	10,704	**1,366**	1,575	**11,561**	12,279
Washington	**7,638**	8,304	**762**	869	**8,400**	9,173
Colorado	**7,577**	8,140	**458**	521	**8,035**	8,661
New Jersey	**5,749**	7,302	**1,447**	1,642	**7,196**	8,944
Massachusetts	**5,610**	6,574	**208**	236	**5,818**	6,810
Arizona	**3,862**	4,434	**986**	1,158	**4,848**	5,592
All other[(g)]	**39,568**	52,996	**6,071**	6,925	**45,639**	59,921
Total retained loans	**$ 197,456**	$ 231,078	**$ 24,954**	$ 28,340	**$ 222,410**	$ 259,418

(a) Individual delinquency classifications include mortgage loans insured by U.S. government agencies as follows: current included $20 million and $2.8 billion; 30–149 days past due included $16 million and $2.1 billion; and 150 or more days past due included $31 million and $2.0 billion at September 30, 2019, and December 31, 2018, respectively.

(b) At September 30, 2019, and December 31, 2018, residential mortgage loans excluded mortgage loans insured by U.S. government agencies of $47 million and $4.1 billion, respectively, that are 30 or more days past due. These amounts have been excluded based upon the government guarantee.

(c) These balances, which are 90 days or more past due, were excluded from nonaccrual loans as the loans are guaranteed by U.S government agencies. Typically the principal balance of the loans is insured and interest is guaranteed at a specified reimbursement rate subject to meeting agreed-upon servicing guidelines. At September 30, 2019, and December 31, 2018, these balances included $38 million and $999 million, respectively, of loans that are no longer accruing interest based on the agreed-upon servicing guidelines. For the remaining balance, interest is being accrued at the guaranteed reimbursement rate. There were no loans that were not guaranteed by U.S. government agencies that are 90 or more days past due and still accruing interest at September 30, 2019, and December 31, 2018.

(d) Represents the aggregate unpaid principal balance of loans divided by the estimated current property value. Current property values are estimated, at a minimum, quarterly, based on home valuation models using nationally recognized home price index valuation estimates incorporating actual data to the extent available and forecasted data where actual data is not available. These property values do not represent actual appraised loan level collateral values; as such, the resulting ratios are necessarily imprecise and should be viewed as estimates. Current estimated combined LTV for junior lien home equity loans considers all available lien positions, as well as unused lines, related to the property.

(e) Refreshed FICO scores represent each borrower's most recent credit score, which is obtained by the Firm on at least a quarterly basis.

(f) The geographic regions presented in the table are ordered based on the magnitude of the corresponding loan balances at September 30, 2019.

(g) At September 30, 2019, and December 31, 2018, included mortgage loans insured by U.S. government agencies of $67 million and $6.9 billion, respectively. These amounts have been excluded from the geographic regions presented based upon the government guarantee.

Approximately 37% of the home equity portfolio are senior lien loans; the remaining balance are junior lien HELOANs or HELOCs. The following table provides the Firm's delinquency statistics for junior lien home equity loans and lines of credit as of September 30, 2019, and December 31, 2018.

	Total loans		Total 30+ day delinquency rate	
(in millions, except ratios)	**Sep 30, 2019**	Dec 31, 2018	**Sep 30, 2019**	Dec 31, 2018
HELOCs:[a]				
Within the revolving period[b]	**$ 5,625**	$ 5,608	**0.37%**	0.25%
Beyond the revolving period	**9,283**	11,286	**2.47**	2.80
HELOANs	**827**	1,030	**2.42**	2.82
Total	**$ 15,735**	$ 17,924	**1.72%**	2.00%

(a) These HELOCs are predominantly revolving loans for a 10-year period, after which time the HELOC converts to a loan with a 20-year amortization period, but also include HELOCs that allow interest-only payments beyond the revolving period.
(b) The Firm manages the risk of HELOCs during their revolving period by closing or reducing the undrawn line to the extent permitted by law when borrowers are experiencing financial difficulty.

HELOCs beyond the revolving period and HELOANs have higher delinquency rates than HELOCs within the revolving period. That is primarily because the fully-amortizing payment that is generally required for those products is higher than the minimum payment options available for HELOCs within the revolving period. The higher delinquency rates associated with amortizing HELOCs and HELOANs are factored into the Firm's allowance for loan losses.

Impaired loans

The table below sets forth information about the Firm's residential real estate impaired loans, excluding PCI loans. These loans are considered to be impaired as they have been modified in a TDR. All impaired loans are evaluated for an asset-specific allowance as described in Note 13 of JPMorgan Chase's 2018 Form 10-K.

	Residential mortgage		Home equity		Total residential real estate – excluding PCI	
(in millions)	**Sep 30, 2019**	Dec 31, 2018	**Sep 30, 2019**	Dec 31, 2018	**Sep 30, 2019**	Dec 31, 2018
Impaired loans						
With an allowance	**$ 2,958**	$ 3,381	**$ 1,062**	$ 1,142	**$ 4,020**	$ 4,523
Without an allowance[a]	**1,160**	1,184	**899**	870	**2,059**	2,054
Total impaired loans[b][c]	**$ 4,118**	$ 4,565	**$ 1,961**	$ 2,012	**$ 6,079**	$ 6,577
Allowance for loan losses related to impaired loans	**$ 63**	$ 88	**$ 14**	$ 45	**$ 77**	$ 133
Unpaid principal balance of impaired loans[d]	**5,578**	6,207	**3,355**	3,466	**8,933**	9,673
Impaired loans on nonaccrual status[e]	**1,376**	1,459	**981**	955	**2,357**	2,414

(a) Represents collateral-dependent residential real estate loans that are charged off to the fair value of the underlying collateral less cost to sell. The Firm reports, in accordance with regulatory guidance, residential real estate loans that have been discharged under Chapter 7 bankruptcy and not reaffirmed by the borrower ("Chapter 7 loans") as collateral-dependent nonaccrual TDRs, regardless of their delinquency status. At September 30, 2019, Chapter 7 residential real estate loans included approximately 12% of residential mortgages and 7% of home equity that were 30 days or more past due.
(b) At September 30, 2019, and December 31, 2018, $16 million and $4.1 billion, respectively, of loans modified subsequent to repurchase from Ginnie Mae in accordance with the standards of the appropriate government agency (i.e., FHA, VA, RHS) are not included in the table above. When such loans perform subsequent to modification in accordance with Ginnie Mae guidelines, they are generally sold back into Ginnie Mae loan pools. Modified loans that do not re-perform become subject to foreclosure.
(c) Predominantly all impaired loans in the table above are in the U.S.
(d) Represents the contractual amount of principal owed at September 30, 2019, and December 31, 2018. The unpaid principal balance differs from the impaired loan balances due to various factors including charge-offs, net deferred loan fees or costs, and unamortized discounts or premiums on purchased loans.
(e) At September 30, 2019 and December 31, 2018, nonaccrual loans included $1.9 billion and $2.0 billion, respectively, of TDRs for which the borrowers were less than 90 days past due. Refer to the Loan accounting framework in Note 12 of JPMorgan Chase's 2018 Form 10-K for additional information about loans modified in a TDR that are on nonaccrual status.

The following tables present average impaired loans and the related interest income reported by the Firm.

Three months ended September 30, (in millions)	Average impaired loans		Interest income on impaired loans[(a)]		Interest income on impaired loans on a cash basis[(a)]	
	2019	2018	**2019**	2018	**2019**	2018
Residential mortgage	**$ 4,200**	$ 4,872	**$ 55**	$ 61	**$ 17**	$ 19
Home equity	**1,938**	2,065	**33**	33	**21**	21
Total residential real estate – excluding PCI	**$ 6,138**	$ 6,937	**$ 88**	$ 94	**$ 38**	$ 40

Nine months ended September 30, (in millions)	Average impaired loans		Interest income on impaired loans[(a)]		Interest income on impaired loans on a cash basis[(a)]	
	2019	2018	**2019**	2018	**2019**	2018
Residential mortgage	**$ 4,390**	$ 5,242	**$ 171**	$ 197	**$ 52**	$ 58
Home equity	**1,973**	2,092	**99**	98	**62**	63
Total residential real estate – excluding PCI	**$ 6,363**	$ 7,334	**$ 270**	$ 295	**$ 114**	$ 121

(a) Generally, interest income on loans modified in TDRs is recognized on a cash basis until the borrower has made a minimum of six payments under the new terms, unless the loan is deemed to be collateral-dependent.

Loan modifications

Modifications of residential real estate loans, excluding PCI loans, are generally accounted for and reported as TDRs. There were no additional commitments to lend to borrowers whose residential real estate loans, excluding PCI loans, have been modified in TDRs.

The following table presents new TDRs reported by the Firm.

(in millions)	Three months ended September 30,		Nine months ended September 30,	
	2019	2018	**2019**	2018
Residential mortgage	**$ 50**	$ 67	**$ 181**	$ 314
Home equity	**100**	55	**214**	241
Total residential real estate – excluding PCI	**$ 150**	$ 122	**$ 395**	$ 555

Nature and extent of modifications

The U.S. Treasury's Making Home Affordable programs, as well as the Firm's proprietary modification programs, generally provide various concessions to financially troubled borrowers including, but not limited to, interest rate reductions, term or payment extensions and deferral of principal and/or interest payments that would otherwise have been required under the terms of the original agreement.

The following tables provide information about how residential real estate loans, excluding PCI loans, were modified under the Firm's loss mitigation programs described above during the periods presented. These tables exclude Chapter 7 loans where the sole concession granted is the discharge of debt.

	Residential mortgage		Home equity		Total residential real estate – excluding PCI	
Three months ended September 30,	**2019**	2018	**2019**	2018	**2019**	2018
Number of loans approved for a trial modification	**365**	513	**854**	586	**1,219**	1,099
Number of loans permanently modified	**307**	719	**855**	939	**1,162**	1,658
Concession granted:[(a)]						
Interest rate reduction	**78%**	58%	**93%**	77%	**89%**	69%
Term or payment extension	**94**	83	**59**	88	**68**	86
Principal and/or interest deferred	**21**	30	**6**	11	**10**	19
Principal forgiveness	**7**	9	**4**	7	**5**	8
Other[(b)]	**53**	36	**85**	58	**76**	49

	Residential mortgage		Home equity		Total residential real estate – excluding PCI	
Nine months ended September 30,	**2019**	2018	**2019**	2018	**2019**	2018
Number of loans approved for a trial modification	**1,603**	1,789	**1,786**	1,895	**3,389**	3,684
Number of loans permanently modified	**1,178**	2,374	**2,778**	4,005	**3,956**	6,379
Concession granted:[(a)]						
Interest rate reduction	**65%**	36%	**83%**	57%	**78%**	49%
Term or payment extension	**91**	49	**64**	62	**72**	57
Principal and/or interest deferred	**26**	47	**7**	22	**13**	31
Principal forgiveness	**6**	7	**5**	7	**5**	7
Other[(b)]	**44**	40	**71**	58	**63**	52

(a) Represents concessions granted in permanent modifications as a percentage of the number of loans permanently modified. The sum of the percentages exceeds 100% because predominantly all of the modifications include more than one type of concession. Concessions offered on trial modifications are generally consistent with those granted on permanent modifications.

(b) Includes variable interest rate to fixed interest rate modifications and forbearances that meet the definition of a TDR for the three and nine months ended September 30, 2019 and 2018. Forbearances suspend or reduce monthly payments for a specific period of time to address a temporary hardship.

Financial effects of modifications and redefaults

The following tables provide information about the financial effects of the various concessions granted in modifications of residential real estate loans, excluding PCI loans, under the loss mitigation programs described above and about redefaults of certain loans modified in TDRs for the periods presented. The following tables present only the financial effects of permanent modifications and do not include temporary concessions offered through trial modifications. These tables also exclude Chapter 7 loans where the sole concession granted is the discharge of debt.

Three months ended September 30, (in millions, except weighted-average data)	Residential mortgage		Home equity		Total residential real estate – excluding PCI	
	2019	2018	**2019**	2018	**2019**	2018
Weighted-average interest rate of loans with interest rate reductions – before TDR	**5.68%**	6.13%	**5.50%**	5.69%	**5.57%**	5.89%
Weighted-average interest rate of loans with interest rate reductions – after TDR	**3.99**	4.23	**3.30**	3.83	**3.58**	4.01
Weighted-average remaining contractual term (in years) of loans with term or payment extensions – before TDR	**21**	22	**19**	18	**20**	21
Weighted-average remaining contractual term (in years) of loans with term or payment extensions – after TDR	**39**	39	**39**	39	**39**	39
Charge-offs recognized upon permanent modification	**$ –**	$ –	**$ –**	$ –	**$ –**	$ –
Principal deferred	**5**	7	**1**	2	**6**	9
Principal forgiven	**1**	3	**1**	1	**2**	4
Balance of loans that redefaulted within one year of permanent modification[(a)]	**$ 36**	$ 27	**$ 17**	$ 19	**$ 53**	$ 46

Nine months ended September 30, (in millions, except weighted-average data)	Residential mortgage		Home equity		Total residential real estate – excluding PCI	
	2019	2018	**2019**	2018	**2019**	2018
Weighted-average interest rate of loans with interest rate reductions – before TDR	**6.08%**	5.45%	**5.56%**	5.34%	**5.77%**	5.39%
Weighted-average interest rate of loans with interest rate reductions – after TDR	**4.36**	3.64	**3.60**	3.39	**3.90**	3.49
Weighted-average remaining contractual term (in years) of loans with term or payment extensions – before TDR	**21**	24	**20**	18	**20**	22
Weighted-average remaining contractual term (in years) of loans with term or payment extensions – after TDR	**39**	38	**40**	39	**39**	38
Charge-offs recognized upon permanent modification	**$ 1**	$ –	**$ –**	$ 1	**$ 1**	$ 1
Principal deferred	**13**	17	**4**	7	**17**	24
Principal forgiven	**3**	9	**3**	5	**6**	14
Balance of loans that redefaulted within one year of permanent modification[(a)]	**$ 87**	$ 69	**$ 45**	$ 49	**$ 132**	$ 118

(a) Represents loans permanently modified in TDRs that experienced a payment default in the periods presented, and for which the payment default occurred within one year of the modification. The dollar amounts presented represent the balance of such loans at the end of the reporting period in which such loans defaulted. For residential real estate loans modified in TDRs, payment default is deemed to occur when the loan becomes two contractual payments past due. In the event that a modified loan redefaults, it is probable that the loan will ultimately be liquidated through foreclosure or another similar type of liquidation transaction. Redefaults of loans modified within the last 12 months may not be representative of ultimate redefault levels.

At September 30, 2019, the weighted-average estimated remaining lives of residential real estate loans, excluding PCI loans, permanently modified in TDRs were 10 years for residential mortgage and 9 years for home equity. The estimated remaining lives of these loans reflect estimated prepayments, both voluntary and involuntary (i.e., foreclosures and other forced liquidations).

Active and suspended foreclosure

At September 30, 2019, and December 31, 2018, the Firm had non-PCI residential real estate loans, excluding those insured by U.S. government agencies, with a carrying value of $546 million and $653 million, respectively, that were not included in REO, but were in the process of active or suspended foreclosure.

Other consumer loans

The table below provides information for other consumer retained loan classes, including auto and business banking loans.

(in millions, except ratios)	Auto		Consumer & Business Banking		Total other consumer	
	Sep 30, 2019	Dec 31, 2018	**Sep 30, 2019**	Dec 31, 2018	**Sep 30, 2019**	Dec 31, 2018
Loan delinquency						
Current	**$ 60,872**	$ 62,984	**$ 26,346**	$ 26,249	**$ 87,218**	$ 89,233
30–119 days past due	**534**	589	**231**	252	**765**	841
120 or more days past due	**4**	–	**122**	111	**126**	111
Total retained loans	**$ 61,410**	$ 63,573	**$ 26,699**	$ 26,612	**$ 88,109**	$ 90,185
% of 30+ days past due to total retained loans	**0.88%**	0.93%	**1.32%**	1.36%	**1.01%**	1.06%
Nonaccrual loans[(a)]	**112**	128	**268**	245	**380**	373
Geographic region[(b)]						
California	**$ 8,016**	$ 8,330	**$ 5,744**	$ 5,520	**$ 13,760**	$ 13,850
Texas	**6,644**	6,531	**3,042**	2,993	**9,686**	9,524
New York	**3,627**	3,863	**4,339**	4,381	**7,966**	8,244
Illinois	**3,438**	3,716	**1,737**	2,046	**5,175**	5,762
Florida	**3,280**	3,256	**1,565**	1,502	**4,845**	4,758
Arizona	**1,990**	2,084	**1,268**	1,491	**3,258**	3,575
Ohio	**1,900**	1,973	**1,189**	1,305	**3,089**	3,278
New Jersey	**1,920**	1,981	**805**	723	**2,725**	2,704
Michigan	**1,279**	1,357	**1,264**	1,329	**2,543**	2,686
Louisiana	**1,598**	1,587	**768**	860	**2,366**	2,447
All other	**27,718**	28,895	**4,978**	4,462	**32,696**	33,357
Total retained loans	**$ 61,410**	$ 63,573	**$ 26,699**	$ 26,612	**$ 88,109**	$ 90,185
Loans by risk ratings[(c)]						
Noncriticized	**$ 13,823**	$ 15,749	**$ 18,738**	$ 18,743	**$ 32,561**	$ 34,492
Criticized performing	**394**	273	**747**	751	**1,141**	1,024
Criticized nonaccrual	**–**	–	**218**	191	**218**	191

(a) There were no loans that were 90 or more days past due and still accruing interest at September 30, 2019, and December 31, 2018.
(b) The geographic regions presented in this table are ordered based on the magnitude of the corresponding loan balances at September 30, 2019.
(c) For risk-rated business banking and auto loans, the primary credit quality indicator is the risk rating of the loan, including whether the loans are considered to be criticized and/or nonaccrual.

Other consumer impaired loans and loan modifications

The table below sets forth information about the Firm's other consumer impaired loans, including risk-rated business banking and auto loans that have been placed on nonaccrual status, and loans that have been modified in TDRs.

(in millions)	September 30, 2019	December 31, 2018
Impaired loans		
With an allowance	**$ 242**	$ 222
Without an allowance[a]	**20**	29
Total impaired loans[b][c]	**$ 262**	$ 251
Allowance for loan losses related to impaired loans	**$ 68**	$ 63
Unpaid principal balance of impaired loans[d]	**357**	355
Impaired loans on nonaccrual status	**240**	229

(a) When discounted cash flows, collateral value or market price equals or exceeds the recorded investment in the loan, the loan does not require an allowance. This typically occurs when the impaired loans have been partially charged off and/or there have been interest payments received and applied to the loan balance.
(b) Predominantly all other consumer impaired loans are in the U.S.
(c) Other consumer average impaired loans were $254 million and $271 million for the three months ended September 30, 2019 and 2018, respectively, and $248 million and $281 million for the nine months ended September 30, 2019 and 2018, respectively. The related interest income on impaired loans, including those on a cash basis, was not material for the three and nine months ended September 30, 2019 and 2018.
(d) Represents the contractual amount of principal owed at September 30, 2019, and December 31, 2018. The unpaid principal balance differs from the impaired loan balances due to various factors, including charge-offs, interest payments received and applied to the principal balance, net deferred loan fees or costs, and unamortized discounts or premiums on purchased loans.

Loan modifications

Certain other consumer loan modifications are considered to be TDRs as they provide various concessions to borrowers who are experiencing financial difficulty. All of these TDRs are reported as impaired loans. Refer to Note 12 of JPMorgan Chase's 2018 Form 10-K for further information on other consumer loans modified in TDRs.

At September 30, 2019 and December 31, 2018, other consumer loans modified in TDRs were $77 million and $79 million, respectively. The impact of these modifications, as well as new TDRs, were not material to the Firm for the three and nine months ended September 30, 2019 and 2018. Additional commitments to lend to borrowers whose loans have been modified in TDRs as of September 30, 2019 and December 31, 2018 were not material. TDRs on nonaccrual status were $55 million and $57 million at September 30, 2019 and December 31, 2018, respectively.

Purchased credit-impaired loans

Refer to Note 12 of JPMorgan Chase's 2018 Form 10-K for a detailed discussion of PCI loans, including the related accounting policies.

Residential real estate – PCI loans

The table below sets forth information about the Firm's consumer, excluding credit card, PCI loans.

(in millions, except ratios)	Home equity		Prime mortgage		Subprime mortgage		Option ARMs		Total PCI	
	Sep 30, 2019	Dec 31, 2018	**Sep 30, 2019**	Dec 31, 2018	**Sep 30, 2019**	Dec 31, 2018	**Sep 30, 2019**	Dec 31, 2018	**Sep 30, 2019**	Dec 31, 2018
Carrying value[(a)]	**$ 7,753**	$ 8,963	**$ 4,164**	$ 4,690	**$ 1,797**	$ 1,945	**$ 7,576**	$ 8,436	**$21,290**	$24,034
Loan delinquency (based on unpaid principal balance)										
Current	**$ 7,543**	$ 8,624	**$ 3,759**	$ 4,226	**$ 1,915**	$ 2,033	**$ 6,876**	$ 7,592	**$20,093**	$22,475
30–149 days past due	**234**	278	**241**	259	**247**	286	**362**	398	**1,084**	1,221
150 or more days past due	**165**	242	**183**	223	**99**	123	**350**	457	**797**	1,045
Total loans	**$ 7,942**	$ 9,144	**$ 4,183**	$ 4,708	**$ 2,261**	$ 2,442	**$ 7,588**	$ 8,447	**$21,974**	$24,741
% of 30+ days past due to total loans	**5.02%**	5.69%	**10.14%**	10.24%	**15.30%**	16.75%	**9.38%**	10.12%	**8.56%**	9.16%
Current estimated LTV ratios (based on unpaid principal balance)[(b)(c)]										
Greater than 125% and refreshed FICO scores:										
Equal to or greater than 660	**$ 13**	$ 17	**$ 2**	$ 1	**$ —**	$ —	**$ 3**	$ 3	**$ 18**	$ 21
Less than 660	**10**	13	**6**	7	**7**	9	**5**	7	**28**	36
101% to 125% and refreshed FICO scores:										
Equal to or greater than 660	**96**	135	**6**	6	**7**	4	**18**	17	**127**	162
Less than 660	**46**	65	**19**	22	**24**	35	**18**	33	**107**	155
80% to 100% and refreshed FICO scores:										
Equal to or greater than 660	**643**	805	**58**	75	**52**	54	**102**	119	**855**	1,053
Less than 660	**271**	388	**71**	112	**109**	161	**128**	190	**579**	851
Lower than 80% and refreshed FICO scores:										
Equal to or greater than 660	**5,031**	5,548	**2,559**	2,689	**809**	739	**4,932**	5,111	**13,331**	14,087
Less than 660	**1,613**	1,908	**1,283**	1,568	**1,155**	1,327	**2,093**	2,622	**6,144**	7,425
No FICO/LTV available	**219**	265	**179**	228	**98**	113	**289**	345	**785**	951
Total unpaid principal balance	**$ 7,942**	$ 9,144	**$ 4,183**	$ 4,708	**$ 2,261**	$ 2,442	**$ 7,588**	$ 8,447	**$21,974**	$24,741
Geographic region (based on unpaid principal balance)[(d)]										
California	**$ 4,704**	$ 5,420	**$ 2,280**	$ 2,578	**$ 549**	$ 593	**$ 4,355**	$ 4,798	**$11,888**	$13,389
Florida	**865**	976	**295**	332	**218**	234	**630**	713	**2,008**	2,255
New York	**469**	525	**338**	365	**249**	268	**452**	502	**1,508**	1,660
Illinois	**207**	233	**139**	154	**115**	123	**181**	199	**642**	709
Washington	**348**	419	**85**	98	**38**	44	**155**	177	**626**	738
New Jersey	**184**	210	**117**	134	**81**	88	**222**	258	**604**	690
Massachusetts	**56**	65	**103**	113	**69**	73	**216**	240	**444**	491
Maryland	**43**	48	**89**	95	**90**	96	**160**	178	**382**	417
Virginia	**47**	54	**82**	91	**35**	37	**190**	211	**354**	393
Arizona	**138**	165	**60**	69	**39**	43	**99**	112	**336**	389
All other	**881**	1,029	**595**	679	**778**	843	**928**	1,059	**3,182**	3,610
Total unpaid principal balance	**$ 7,942**	$ 9,144	**$ 4,183**	$ 4,708	**$ 2,261**	$ 2,442	**$ 7,588**	$ 8,447	**$21,974**	$24,741

(a) Carrying value includes the effect of fair value adjustments that were applied to the consumer PCI portfolio at the date of acquisition.
(b) Represents the aggregate unpaid principal balance of loans divided by the estimated current property value. Current property values are estimated, at a minimum, quarterly, based on home valuation models using nationally recognized home price index valuation estimates incorporating actual data to the extent available and forecasted data where actual data is not available. These property values do not represent actual appraised loan level collateral values; as such, the resulting ratios are necessarily imprecise and should be viewed as estimates. Current estimated combined LTV for junior lien home equity loans considers all available lien positions, as well as unused lines, related to the property.
(c) Refreshed FICO scores represent each borrower's most recent credit score, which is obtained by the Firm on at least a quarterly basis.
(d) The geographic regions presented in the table are ordered based on the magnitude of the corresponding loan balances at September 30, 2019.

Approximately 26% of the PCI home equity portfolio are senior lien loans; the remaining balance are junior lien HELOANs or HELOCs. The following table represents the Firm's delinquency statistics for PCI junior lien home equity loans and lines of credit based on the unpaid principal balance as of September 30, 2019, and December 31, 2018.

	Total loans		Total 30+ day delinquency rate	
(in millions, except ratios)	**Sep 30, 2019**	Dec 31, 2018	**Sep 30, 2019**	Dec 31, 2018
HELOCs[(a)(b)]	**5,623**	6,531	**3.66%**	4.00%
HELOANs	**234**	280	**2.99**	3.57
Total	**$ 5,857**	$ 6,811	**3.64%**	3.98%

(a) In general, these HELOCs are revolving loans for a 10-year period, after which time the HELOC converts to an interest-only loan with a balloon payment at the end of the loan's term. Substantially all HELOCs are beyond the revolving period.
(b) Includes loans modified into fixed rate amortizing loans.

The table below presents the accretable yield activity for the Firm's PCI consumer loans for the three and nine months ended September 30, 2019 and 2018, and represents the Firm's estimate of gross interest income expected to be earned over the remaining life of the PCI loan portfolios. The table excludes the cost to fund the PCI portfolios, and therefore the accretable yield does not represent net interest income expected to be earned on these portfolios.

	Total PCI			
	Three months ended September 30,		Nine months ended September 30,	
(in millions, except ratios)	**2019**	2018	**2019**	2018
Beginning balance	**$ 7,699**	$ 8,722	**$ 8,422**	$11,159
Accretion into interest income	**(272)**	(303)	**(841)**	(958)
Changes in interest rates on variable-rate loans	**(308)**	37	**(402)**	(231)
Other changes in expected cash flows[(a)]	**255**	46	**195**	(1,468)
Balance at September 30	**$ 7,374**	$ 8,502	**$ 7,374**	$ 8,502
Accretable yield percentage	**5.27%**	4.95%	**5.32%**	4.88%

(a) Other changes in expected cash flows may vary from period to period as the Firm continues to refine its cash flow model, for example cash flows expected to be collected due to the impact of modifications and changes in prepayment assumptions.

Active and suspended foreclosure

At September 30, 2019, and December 31, 2018, the Firm had PCI residential real estate loans with an unpaid principal balance of $776 million and $964 million, respectively, that were not included in REO, but were in the process of active or suspended foreclosure.

Credit card loan portfolio

Refer to Note 12 of JPMorgan Chase's 2018 Form 10-K for further information on the credit card loan portfolio, including credit quality indicators.

The table below sets forth information about the Firm's credit card loans.

(in millions, except ratios)	**September 30, 2019**	December 31, 2018
Loan delinquency		
Current and less than 30 days past due and still accruing	**$ 156,629**	$ 153,746
30-89 days past due and still accruing	**1,500**	1,426
90 or more days past due and still accruing	**1,442**	1,444
Total retained loans	**$ 159,571**	$ 156,616
Loan delinquency ratios		
% of 30+ days past due to total retained loans	**1.84%**	1.83%
% of 90+ days past due to total retained loans	**0.90**	0.92
Geographic region[(a)]		
California	**$ 24,313**	$ 23,757
Texas	**15,790**	15,085
New York	**13,940**	13,601
Florida	**10,101**	9,770
Illinois	**9,125**	8,938
New Jersey	**6,821**	6,739
Ohio	**5,093**	5,094
Pennsylvania	**4,918**	4,996
Colorado	**4,543**	4,309
Michigan	**3,942**	3,912
All other	**60,985**	60,415
Total retained loans	**$ 159,571**	$ 156,616
Percentage of portfolio based on carrying value with estimated refreshed FICO scores		
Equal to or greater than 660	**83.6%**	84.2%
Less than 660	**15.6**	15.0
No FICO available	**0.8**	0.8

(a) The geographic regions presented in the table are ordered based on the magnitude of the corresponding loan balances at September 30, 2019.

Credit card impaired loans and loan modifications

Refer to Note 12 of JPMorgan Chase's 2018 Form 10-K for a detailed discussion of impaired credit card loans, including credit card loan modifications.

The table below sets forth information about the Firm's impaired credit card loans. All of these loans are considered to be impaired as they have been modified in TDRs.

(in millions)	September 30, 2019	December 31, 2018
Impaired credit card loans with an allowance[a][b][c]	**$ 1,423**	$ 1,319
Allowance for loan losses related to impaired credit card loans	**488**	440

(a) The carrying value and the unpaid principal balance are the same for credit card impaired loans.
(b) There were no impaired loans without an allowance.
(c) Predominantly all impaired credit card loans are in the U.S.

The following table presents average balances of impaired credit card loans and interest income recognized on those loans.

	Three months ended September 30,		Nine months ended September 30,	
(in millions)	**2019**	2018	**2019**	2018
Average impaired credit card loans	**$ 1,406**	$ 1,267	**$ 1,371**	$ 1,245
Interest income on impaired credit card loans	**18**	17	**53**	48

Loan modifications

The Firm may offer one of a number of loan modification programs to credit card borrowers who are experiencing financial difficulty. Most of the credit card loans have been modified under long-term programs for borrowers who are experiencing financial difficulties. These modifications involve placing the customer on a fixed payment plan, generally for 60 months, and typically include reducing the interest rate on the credit card. Substantially all modifications are considered to be TDRs. New enrollments in these loan modification programs were $242 million and $215 million for the three months ended September 30, 2019 and 2018, respectively, and $717 million and $640 million for the nine months ended September 30, 2019 and 2018, respectively. For all periods disclosed, new enrollments were less than 1% of total retained credit card loans.

Refer to Note 12 of JPMorgan Chase's 2018 Form 10-K for additional information about credit card loan modifications.

Financial effects of modifications and redefaults

The following table provides information about the financial effects of the concessions granted on credit card loans modified in TDRs and redefaults for the periods presented.

	Three months ended September 30,		Nine months ended September 30,	
(in millions, except weighted-average data)	**2019**	2018	**2019**	2018
Weighted-average interest rate of loans – before TDR	**19.18%**	18.25%	**19.23%**	17.82%
Weighted-average interest rate of loans – after TDR	**4.65**	5.10	**4.80**	5.12
Loans that redefaulted within one year of modification[a]	**$ 42**	$ 31	**$ 108**	$ 82

(a) Represents loans modified in TDRs that experienced a payment default in the periods presented, and for which the payment default occurred within one year of the modification. The amounts presented represent the balance of such loans as of the end of the quarter in which they defaulted.

For credit card loans modified in TDRs, payment default is deemed to have occurred when the borrower misses two consecutive contractual payments. A substantial portion of these loans are expected to be charged-off in accordance with the Firm's standard charge-off policy. Based on historical experience, the estimated weighted-average default rate for modified credit card loans was expected to be 34.30% and 33.38% as of September 30, 2019, and December 31, 2018, respectively.

Wholesale loan portfolio

Wholesale loans include loans made to a variety of clients, ranging from large corporate and institutional clients to high-net-worth individuals. The primary credit quality indicator for wholesale loans is the risk rating assigned to each loan. Refer to Note 12 and Note 13 of JPMorgan Chase's 2018 Form 10-K for further information on these risk ratings.

The table below provides information by class of receivable for the retained loans in the Wholesale portfolio segment.

	Commercial and industrial		Real estate		Financial institutions		Governments & Agencies		Other[d]		Total retained loans	
(in millions, except ratios)	**Sep 30, 2019**	Dec 31, 2018	**Sep 30, 2019**	Dec 31, 2018	**Sep 30, 2019**	Dec 31, 2018	**Sep 30, 2019**	Dec 31, 2018	**Sep 30, 2019**	Dec 31, 2018	**Sep 30, 2019**	Dec 31, 2018
Loans by risk ratings												
Investment-grade	**$ 61,709**	$ 73,497	**$101,379**	$100,107	**$ 39,492**	$32,178	**$12,905**	$13,984	**$121,813**	$119,963	**$337,298**	$339,729
Noninvestment-grade:												
Noncriticized	**52,484**	51,720	**13,574**	14,876	**16,123**	15,316	**206**	201	**11,059**	11,478	**93,446**	93,591
Criticized performing	**3,743**	3,738	**808**	620	**202**	150	**—**	2	**540**	182	**5,293**	4,692
Criticized nonaccrual	**1,291**	851	**65**	134	**22**	4	**—**	—	**92**	161	**1,470**	1,150
Total noninvestment-grade	**57,518**	56,309	**14,447**	15,630	**16,347**	15,470	**206**	203	**11,691**	11,821	**100,209**	99,433
Total retained loans	**$119,227**	$129,806	**$115,826**	$115,737	**$ 55,839**	$47,648	**$13,111**	$14,187	**$133,504**	$131,784	**$437,507**	$439,162
% of total criticized exposure to total retained loans	**4.22%**	3.54%	**0.75%**	0.65 %	**0.40%**	0.32%	**—%**	0.01%	**0.47%**	0.26%	**1.55%**	1.33%
% of criticized nonaccrual to total retained loans	**1.08**	0.66	**0.06**	0.12	**0.04**	0.01	**—**	—	**0.07**	0.12	**0.34**	0.26
Loans by geographic distribution[a]												
Total non-U.S.	**$ 28,850**	$ 29,572	**$ 3,202**	$ 2,967	**$ 17,112**	$18,524	**$ 2,699**	$ 3,150	**$ 48,394**	$ 48,433	**$100,257**	$102,646
Total U.S.	**90,377**	100,234	**112,624**	112,770	**38,727**	29,124	**10,412**	11,037	**85,110**	83,351	**337,250**	336,516
Total retained loans	**$119,227**	$129,806	**$115,826**	$115,737	**$ 55,839**	$47,648	**$13,111**	$14,187	**$133,504**	$131,784	**$437,507**	$439,162
Loan delinquency[b]												
Current and less than 30 days past due and still accruing	**$117,621**	$128,678	**$115,733**	$115,533	**$ 55,764**	$47,622	**$13,097**	$14,165	**$132,844**	$130,918	**$435,059**	$436,916
30–89 days past due and still accruing	**279**	109	**22**	67	**51**	12	**13**	18	**568**	702	**933**	908
90 or more days past due and still accruing[c]	**36**	168	**6**	3	**2**	10	**1**	4	**—**	3	**45**	188
Criticized nonaccrual	**1,291**	851	**65**	134	**22**	4	**—**	—	**92**	161	**1,470**	1,150
Total retained loans	**$119,227**	$129,806	**$115,826**	$115,737	**$ 55,839**	$47,648	**$13,111**	$14,187	**$133,504**	$131,784	**$437,507**	$439,162

(a) The U.S. and non-U.S. distribution is determined based predominantly on the domicile of the borrower.
(b) The credit quality of wholesale loans is assessed primarily through ongoing review and monitoring of an obligor's ability to meet contractual obligations rather than relying on the past due status, which is generally a lagging indicator of credit quality. Refer to Note 12 of JPMorgan Chase's 2018 Form 10-K for a further discussion.
(c) Represents loans that are considered well-collateralized and therefore still accruing interest.
(d) Other includes individuals and individual entities (predominantly consists of Wealth Management clients within AWM and includes exposure to personal investment companies and personal and testamentary trusts), SPEs and Private education and civic organizations. Refer to Note 14 of JPMorgan Chase's 2018 Form 10-K for more information on SPEs.

The following table presents additional information on the real estate class of loans within the Wholesale portfolio for the periods indicated. Refer to Note 12 of JPMorgan Chase's 2018 Form 10-K for further information on real estate loans.

(in millions, except ratios)	Multifamily		Other commercial		Total real estate loans	
	Sep 30, 2019	Dec 31, 2018	**Sep 30, 2019**	Dec 31, 2018	**Sep 30, 2019**	Dec 31, 2018
Real estate retained loans	**$ 79,169**	$ 79,184	**$ 36,657**	$ 36,553	**$ 115,826**	$ 115,737
Criticized exposure	**533**	388	**340**	366	**873**	754
% of total criticized exposure to total real estate retained loans	**0.67%**	0.49%	**0.93%**	1.00%	**0.75%**	0.65%
Criticized nonaccrual	**$ 34**	$ 57	**$ 31**	$ 77	**$ 65**	$ 134
% of criticized nonaccrual loans to total real estate retained loans	**0.04%**	0.07%	**0.08%**	0.21%	**0.06%**	0.12%

Wholesale impaired retained loans and loan modifications

Wholesale impaired retained loans consist of loans that have been placed on nonaccrual status and/or that have been modified in a TDR. All impaired loans are evaluated for an asset-specific allowance as described in Note 13 of JPMorgan Chase's 2018 Form 10-K.

The table below sets forth information about the Firm's wholesale impaired retained loans.

(in millions)	Commercial and industrial		Real estate		Financial institutions		Governments & Agencies		Other		Total retained loans	
	Sep 30, 2019	Dec 31, 2018	**Sep 30, 2019**	Dec 31, 2018	**Sep 30, 2019**	Dec 31, 2018	**Sep 30, 2019**	Dec 31, 2018	**Sep 30, 2019**	Dec 31, 2018	**Sep 30, 2019**	Dec 31, 2018
Impaired loans												
With an allowance	**$ 1,068**	$ 807	**$ 46**	$ 107	**$ 22**	$ 4	**$ –**	$ –	**$ 96**	$ 152	**$ 1,232**	$ 1,070
Without an allowance[(a)]	**279**	140	**21**	27	**–**	–	**–**	–	**4**	13	**304**	180
Total impaired loans	**$ 1,347**	$ 947	**$ 67**	$ 134	**$ 22**	$ 4	**$ –**	$ –	**$ 100**	$ 165	**$ 1,536** [(c)]	$ 1,250 [(c)]
Allowance for loan losses related to impaired loans	**$ 320**	$ 252	**$ 13**	$ 25	**$ 7**	$ 1	**$ –**	$ –	**$ 2**	$ 19	**$ 342**	$ 297
Unpaid principal balance of impaired loans[(b)]	**1,532**	1,043	**104**	203	**23**	4	**–**	–	**336**	473	**1,995**	1,723

(a) When the discounted cash flows, collateral value or market price equals or exceeds the recorded investment in the loan, the loan does not require an allowance. This typically occurs when the impaired loans have been partially charged-off and/or there have been interest payments received and applied to the loan balance.

(b) Represents the contractual amount of principal owed at September 30, 2019, and December 31, 2018. The unpaid principal balance differs from the impaired loan balances due to various factors, including charge-offs; interest payments received and applied to the carrying value; net deferred loan fees or costs; and unamortized discount or premiums on purchased loans.

(c) Based upon the domicile of the borrower, largely consists of loans in the U.S.

The following table presents the Firm's average impaired retained loans for the periods indicated.

(in millions)	Three months ended September 30,		Nine months ended September 30,	
	2019	2018	**2019**	2018
Commercial and industrial	**$ 1,073**	$ 838	**$ 1,082**	$ 1,095
Real estate	**80**	134	**105**	138
Financial institutions	**9**	45	**11**	76
Governments & Agencies	**–**	–	**–**	–
Other	**123**	202	**207**	214
Total[(a)]	**$ 1,285**	$ 1,219	**$ 1,405**	$ 1,523

(a) The related interest income on accruing impaired loans and interest income recognized on a cash basis were not material for the three and nine months ended September 30, 2019 and 2018.

Certain loan modifications are considered to be TDRs as they provide various concessions to borrowers who are experiencing financial difficulty. All TDRs are reported as impaired loans in the tables above. TDRs were $498 million and $576 million as of September 30, 2019, and December 31, 2018, respectively. The impact of these modifications, as well as new TDRs, were not material to the Firm for the three and nine months ended September 30, 2019 and 2018.

Note 12 – Allowance for credit losses

Refer to Note 13 of JPMorgan Chase’s 2018 Form 10-K for a detailed discussion of the allowance for credit losses and the related accounting policies.

Allowance for credit losses and related information

The table below summarizes information about the allowances for loan losses and lending-related commitments, and includes a breakdown of loans and lending-related commitments by impairment methodology.

	2019				2018			
Nine months ended September 30, (in millions)	Consumer, excluding credit card	Credit card	Wholesale	Total	Consumer, excluding credit card	Credit card	Wholesale	Total
Allowance for loan losses								
Beginning balance at January 1,	$ 4,146	$ 5,184	$ 4,115	$ 13,445	$ 4,579	$ 4,884	$ 4,141	$ 13,604
Gross charge-offs	702	4,050	270	5,022	776	3,777	264	4,817
Gross recoveries	(420)	(433)	(34)	(887)	(681)	(370)	(146)	(1,197)
Net charge-offs	282	3,617	236	4,135	95	3,407	118	3,620
Write-offs of PCI loans[a]	132	–	–	132	151	–	–	151
Provision for loan losses	(265)	4,017	296	4,048	(152)	3,557	(111)	3,294
Other	–	(1)	10	9	1	–	–	1
Ending balance at September 30,	$ 3,467	$ 5,583	$ 4,185	$ 13,235	$ 4,182	$ 5,034	$ 3,912	$ 13,128
Allowance for loan losses by impairment methodology								
Asset-specific[b]	$ 145	$ 488[c]	$ 342	$ 975	$ 204	$ 421[c]	$ 280	$ 905
Formula-based	2,066	5,095	3,843	11,004	2,154	4,613	3,632	10,399
PCI	1,256	–	–	1,256	1,824	–	–	1,824
Total allowance for loan losses	$ 3,467	$ 5,583	$ 4,185	$ 13,235	$ 4,182	$ 5,034	$ 3,912	$ 13,128
Loans by impairment methodology								
Asset-specific	$ 6,341	$ 1,423	$ 1,536	$ 9,300	$ 7,046	$ 1,284	$ 1,051	$ 9,381
Formula-based	304,178	158,148	435,971	898,297	343,703	146,572	422,783	913,058
PCI	21,290	–	–	21,290	25,209	–	3	25,212
Total retained loans	$ 331,809	$ 159,571	$ 437,507	$ 928,887	$ 375,958	$ 147,856	$ 423,837	$ 947,651
Impaired collateral-dependent loans								
Net charge-offs	$ 28	$ –	$ 23	$ 51	$ 15	$ –	$ –	$ 15
Loans measured at fair value of collateral less cost to sell	2,083	–	113	2,196	2,077	–	258	2,335
Allowance for lending-related commitments								
Beginning balance at January 1,	$ 33	$ –	$ 1,022	$ 1,055	$ 33	$ –	$ 1,035	$ 1,068
Provision for lending-related commitments	–	–	110	110	–	–	29	29
Other	–	–	–	–	–	–	–	–
Ending balance at September 30,	$ 33	$ –	$ 1,132	$ 1,165	$ 33	$ –	$ 1,064	$ 1,097
Allowance for lending-related commitments by impairment methodology								
Asset-specific	$ –	$ –	$ 135	$ 135	$ –	$ –	$ 71	$ 71
Formula-based	33	–	997	1,030	33	–	993	1,026
Total allowance for lending-related commitments	$ 33	$ –	$ 1,132	$ 1,165	$ 33	$ –	$ 1,064	$ 1,097
Lending-related commitments by impairment methodology								
Asset-specific	$ –	$ –	$ 446	$ 446	$ –	$ –	$ 252	$ 252
Formula-based	53,591	645,880	395,173	1,094,644	50,630	600,728	397,064	1,048,422
Total lending-related commitments	$ 53,591	$ 645,880	$ 395,619	$1,095,090	$ 50,630	$ 600,728	$ 397,316	$1,048,674

(a) Write-offs of PCI loans are recorded against the allowance for loan losses when actual losses for a pool exceed estimated losses that were recorded as purchase accounting adjustments at the time of acquisition. A write-off of a PCI loan is recognized when the underlying loan is removed from a pool.
(b) Includes risk-rated loans that have been placed on nonaccrual status and loans that have been modified in a TDR.
(c) The asset-specific credit card allowance for loan losses is related to loans that have been modified in a TDR; such allowance is calculated based on the loans’ original contractual interest rates and does not consider any incremental penalty rates.

Note 13 – Variable interest entities

Refer to Note 1 of JPMorgan Chase's 2018 Form 10-K for a further description of JPMorgan Chase's accounting policies regarding consolidation of VIEs.

The following table summarizes the most significant types of Firm-sponsored VIEs by business segment.

Line of Business	*Transaction Type*	*Activity*	*Form 10-Q page reference*
CCB	Credit card securitization trusts	Securitization of originated credit card receivables	139
	Mortgage securitization trusts	Servicing and securitization of both originated and purchased residential mortgages	139-141
CIB	Mortgage and other securitization trusts	Securitization of both originated and purchased residential and commercial mortgages, and other consumer loans	139-141
	Multi-seller conduits	Assist clients in accessing the financial markets in a cost-efficient manner and structures transactions to meet investor needs	141
	Municipal bond vehicles	Financing of municipal bond investments	141

The Firm also invests in and provides financing and other services to VIEs sponsored by third parties. Refer to pages 142–143 of this Note for more information on the VIEs sponsored by third parties.

Significant Firm-sponsored VIEs

Credit card securitizations

Refer to Note 14 of JPMorgan Chase's 2018 Form 10-K for a more detailed discussion of JPMorgan Chase's involvement with credit card securitizations.

As a result of the Firm's continuing involvement, the Firm is considered to be the primary beneficiary of its Firm-sponsored credit card securitization trusts, including its primary vehicle, the Chase Issuance Trust. Refer to the table on page 142 of this Note for further information on consolidated VIE assets and liabilities.

Firm-sponsored mortgage and other securitization trusts

The Firm securitizes (or has securitized) originated and purchased residential mortgages, commercial mortgages and other consumer loans primarily in its CCB and CIB businesses. Depending on the particular transaction, as well as the respective business involved, the Firm may act as the servicer of the loans and/or retain certain beneficial interests in the securitization trusts.

Refer to Note 14 of JPMorgan Chase's 2018 Form 10-K for a detailed discussion of the Firm's involvement with Firm-sponsored mortgage and other securitization trusts, as well as the accounting treatment relating to such trusts.

The following table presents the total unpaid principal amount of assets held in Firm-sponsored private-label securitization entities, including those in which the Firm has continuing involvement, and those that are consolidated by the Firm. Continuing involvement includes servicing the loans, holding senior interests or subordinated interests (including amounts required to be held pursuant to credit risk retention rules), recourse or guarantee arrangements, and derivative contracts. In certain instances, the Firm's only continuing involvement is servicing the loans. Refer to Securitization activity on page 143 of this Note for further information regarding the Firm's cash flows associated with and interests retained in nonconsolidated VIEs, and pages 143–144 of this Note for information on the Firm's loan sales and securitization activity related to U.S. GSEs and government agencies.

	Principal amount outstanding			JPMorgan Chase interest in securitized assets in nonconsolidated VIEs[c][d][e]			
September 30, 2019 (in millions)	Total assets held by securitization VIEs	Assets held in consolidated securitization VIEs	Assets held in nonconsolidated securitization VIEs with continuing involvement	Trading assets	Investment securities	Other financial assets	Total interests held by JPMorgan Chase
Securitization-related[a]							
Residential mortgage:							
Prime/Alt-A and option ARMs	**$ 61,480**	**$ 2,966**	**$ 49,826**	**$ 522**	**$ 728**	**$ –**	**$ 1,250**
Subprime	**15,156**	**–**	**14,085**	**16**	**–**	**–**	**16**
Commercial and other[b]	**101,624**	**–**	**86,302**	**919**	**708**	**234**	**1,861**
Total	**$ 178,260**	**$ 2,966**	**$ 150,213**	**$ 1,457**	**$ 1,436**	**$ 234**	**$ 3,127**

	Principal amount outstanding			JPMorgan Chase interest in securitized assets in nonconsolidated VIEs[c][d][e]			
December 31, 2018 (in millions)	Total assets held by securitization VIEs	Assets held in consolidated securitization VIEs	Assets held in nonconsolidated securitization VIEs with continuing involvement	Trading assets	Investment securities	Other financial assets	Total interests held by JPMorgan Chase
Securitization-related[a]							
Residential mortgage:							
Prime/Alt-A and option ARMs	$ 63,350	$ 3,237	$ 50,679	$ 623	$ 647	$ –	$ 1,270
Subprime	16,729	32	15,434	53	–	–	53
Commercial and other[b]	102,961	–	79,387	783	801	210	1,794
Total	$ 183,040	$ 3,269	$ 145,500	$ 1,459	$ 1,448	$ 210	$ 3,117

(a) Excludes U.S. GSEs and government agency securitizations and re-securitizations, which are not Firm-sponsored. Refer to pages 143–144 of this Note for information on the Firm's loan sales and securitization activity related to U.S. GSEs and government agencies.

(b) Consists of securities backed by commercial real estate loans and non-mortgage-related consumer receivables purchased from third parties.

(c) Excludes the following: retained servicing (refer to Note 14 for a discussion of MSRs); securities retained from loan sales and securitization activity related to U.S. GSEs and government agencies; interest rate and foreign exchange derivatives primarily used to manage interest rate and foreign exchange risks of securitization entities (Refer to Note 4 for further information on derivatives); senior and subordinated securities of $168 million and $69 million, respectively, at September 30, 2019, and $87 million and $28 million, respectively, at December 31, 2018, which the Firm purchased in connection with CIB's secondary market-making activities.

(d) Includes interests held in re-securitization transactions.

(e) As of September 30, 2019, and December 31, 2018, 67% and 60%, respectively, of the Firm's retained securitization interests, which are predominantly carried at fair value and include amounts required to be held pursuant to credit risk retention rules, were risk-rated "A" or better, on an S&P-equivalent basis. The retained interests in prime residential mortgages consisted of $1.2 billion and $1.3 billion of investment-grade, and $55 million and $16 million of noninvestment-grade at September 30, 2019, and December 31, 2018, respectively. The retained interests in commercial and other securitizations trusts consisted of $1.3 billion and $1.2 billion of investment-grade retained interests at September 30, 2019 and December 31, 2018, and $567 million and $623 million of noninvestment-grade retained interests at September 30, 2019, and December 31, 2018, respectively.

Residential mortgage
The Firm securitizes residential mortgage loans originated by CCB, as well as residential mortgage loans purchased from third parties by either CCB or CIB. Refer to Note 14 of JPMorgan Chase's 2018 Form 10-K for a more detailed description of the Firm's involvement with residential mortgage securitizations. Refer to the table on page 142 of this Note for more information on the consolidated residential mortgage securitizations, and the table on the previous page of this Note for further information on interests held in nonconsolidated residential mortgage securitizations.

Commercial mortgages and other consumer securitizations
CIB originates and securitizes commercial mortgage loans, and engages in underwriting and trading activities involving the securities issued by securitization trusts. Refer to Note 14 of JPMorgan Chase's 2018 Form 10-K for a more detailed description of the Firm's involvement with commercial mortgage and other consumer securitizations. Refer to the table on page 142 of this Note for more information on the consolidated commercial mortgage securitizations, and the table on the previous page of this Note for further information on interests held in nonconsolidated securitizations.

Re-securitizations
Refer to Note 14 of JPMorgan Chase's 2018 Form 10-K for a more detailed description of JPMorgan Chase's participation in certain re-securitization transactions.

The following table presents the principal amount of securities transferred to re-securitization VIEs.

	Three months ended September 30,		Nine months ended September 30,	
(in millions)	**2019**	2018	**2019**	2018
Transfers of securities to VIEs				
U.S. GSEs and government agencies	**$ 5,377**	$ 2,540	**$ 12,444**	$ 11,321

The following table presents information on nonconsolidated re-securitization VIEs.

	Nonconsolidated re-securitization VIEs	
(in millions)	**September 30, 2019**	December 31, 2018
Firm-sponsored private-label		
Assets held in VIEs with continuing involvement[(a)]	**$ 21**	$ 118
Interest in VIEs	**—**	10
U.S. GSEs and government agencies		
Interest in VIEs	**2,097**	3,058

(a) Represents the principal amount and includes the notional amount of interest-only securities.

As of September 30, 2019, and December 31, 2018, the Firm did not consolidate any U.S. GSE and government agency re-securitization VIEs or any Firm-sponsored private-label re-securitization VIEs.

Multi-seller conduits
Refer to Note 14 of JPMorgan Chase's 2018 Form 10-K for a more detailed description of JPMorgan Chase's principal involvement with Firm-administered multi-seller conduits.

In the normal course of business, JPMorgan Chase makes markets in and invests in commercial paper issued by the Firm-administered multi-seller conduits. The Firm held $12.6 billion and $20.1 billion of the commercial paper issued by the Firm-administered multi-seller conduits at September 30, 2019, and December 31, 2018, respectively, which have been eliminated in consolidation. The Firm's investments reflect the Firm's funding needs and capacity and were not driven by market illiquidity. Other than the amounts required to be held pursuant to credit risk retention rules, the Firm is not obligated under any agreement to purchase the commercial paper issued by the Firm-administered multi-seller conduits.

Deal-specific liquidity facilities, program-wide liquidity and credit enhancement provided by the Firm have been eliminated in consolidation. The Firm or the Firm-administered multi-seller conduits provide lending-related commitments to certain clients of the Firm-administered multi-seller conduits. The unfunded commitments were $8.5 billion and $8.0 billion at September 30, 2019, and December 31, 2018, respectively, and are reported as off-balance sheet lending-related commitments in other unfunded commitments to extend credit. Refer to Note 22 for more information on off-balance sheet lending-related commitments.

Municipal bond vehicles
Municipal bond vehicles or tender option bond ("TOB") trusts allow institutions to finance their municipal bond investments at short-term rates. TOB transactions are known as customer TOB trusts and non-customer TOB trusts. Customer TOB trusts are sponsored by a third party, refer to pages 142–143 of this Note for further information. The Firm serves as sponsor for all non-customer TOB transactions. Refer to Note 14 of JPMorgan Chase's 2018 Form 10-K for a more detailed description of JPMorgan Chase's Municipal bond vehicles.

Consolidated VIE assets and liabilities

The following table presents information on assets and liabilities related to VIEs consolidated by the Firm as of September 30, 2019, and December 31, 2018.

	Assets				Liabilities		
September 30, 2019 (in millions)	Trading assets	Loans	Other[b]	Total assets[c]	Beneficial interests in VIE assets[d]	Other[e]	Total liabilities
VIE program type							
Firm-sponsored credit card trusts	**$ —**	**$ 27,377**	**$ 370**	**$ 27,747**	**$ 6,457**	**$ 6**	**$ 6,463**
Firm-administered multi-seller conduits	**3**	**22,708**	**334**	**23,045**	**10,514**	**35**	**10,549**
Municipal bond vehicles	**1,280**	**—**	**3**	**1,283**	**1,249**	**2**	**1,251**
Mortgage securitization entities[a]	**70**	**2,937**	**58**	**3,065**	**295**	**137**	**432**
Other	**108**	**—**	**209**	**317**	**—**	**121**	**121**
Total	**$ 1,461**	**$ 53,022**	**$ 974**	**$ 55,457**	**$ 18,515**	**$ 301**	**$ 18,816**

	Assets				Liabilities		
December 31, 2018 (in millions)	Trading assets	Loans	Other[b]	Total assets[c]	Beneficial interests in VIE assets[d]	Other[e]	Total liabilities
VIE program type							
Firm-sponsored credit card trusts	$ —	$ 31,760	$ 491	$ 32,251	$ 13,404	$ 12	$ 13,416
Firm-administered multi-seller conduits	—	24,411	300	24,711	4,842	33	4,875
Municipal bond vehicles	1,779	—	4	1,783	1,685	3	1,688
Mortgage securitization entities[a]	53	3,285	40	3,378	308	161	469
Other	134	—	178	312	2	103	105
Total	$ 1,966	$ 59,456	$ 1,013	$ 62,435	$ 20,241	$ 312	$ 20,553

(a) Includes residential and commercial mortgage securitizations.
(b) Includes assets classified as cash and other assets on the Consolidated balance sheets.
(c) The assets of the consolidated VIEs included in the program types above are used to settle the liabilities of those entities. The assets and liabilities include third-party assets and liabilities of consolidated VIEs and exclude intercompany balances that eliminate in consolidation.
(d) The interest-bearing beneficial interest liabilities issued by consolidated VIEs are classified in the line item on the Consolidated balance sheets titled, "Beneficial interests issued by consolidated variable interest entities." The holders of these beneficial interests generally do not have recourse to the general credit of JPMorgan Chase. Refer to note 14 of JPMorgan Chase's 2018 Form 10-K for conduits program-wide credit enhancements. Included in beneficial interests in VIE assets are long-term beneficial interests of $6.8 billion and $13.7 billion at September 30, 2019, and December 31, 2018.
(e) Includes liabilities classified as accounts payable and other liabilities on the Consolidated balance sheets.

VIEs sponsored by third parties

The Firm enters into transactions with VIEs structured by other parties. These include, for example, acting as a derivative counterparty, liquidity provider, investor, underwriter, placement agent, remarketing agent, trustee or custodian. These transactions are conducted at arm's-length, and individual credit decisions are based on the analysis of the specific VIE, taking into consideration the quality of the underlying assets. Where the Firm does not have the power to direct the activities of the VIE that most significantly impact the VIE's economic performance, or a variable interest that could potentially be significant, the Firm generally does not consolidate the VIE, but it records and reports these positions on its Consolidated balance sheets in the same manner it would record and report positions in respect of any other third-party transaction.

Tax credit vehicles

The Firm holds investments in unconsolidated tax credit vehicles, which are limited partnerships and similar entities that construct, own and operate affordable housing, wind, solar and other alternative energy projects. These entities are primarily considered VIEs. A third party is typically the general partner or managing member and has control over the significant activities of the tax credit vehicles, and accordingly the Firm does not consolidate tax credit vehicles. The Firm generally invests in these partnerships as a limited partner and earns a return primarily through the receipt of tax credits allocated to the projects. The maximum loss exposure, represented by equity investments and funding commitments, was $17.0 billion and $16.5 billion, of which $4.8 billion and $4.0 billion was unfunded at September 30, 2019 and December 31, 2018, respectively. In order to reduce the risk of loss, the Firm assesses each project and withholds varying amounts of its capital investment until the project qualifies for tax credits. Refer to Note 24 of JPMorgan Chase's 2018 Form 10-K for further information on affordable housing tax credits. Refer to Note 22 of this Form 10-Q for more information on off-balance sheet lending-related commitments.

Customer municipal bond vehicles (TOB trusts)

The Firm may provide various services to Customer TOB trusts, including remarketing agent, liquidity or tender option provider. In certain Customer TOB transactions, the

Firm, as liquidity provider, has entered into a reimbursement agreement with the Residual holder.

In those transactions, upon the termination of the vehicle, the Firm has recourse to the third-party Residual holders for any shortfall. The Firm does not have any intent to protect Residual holders from potential losses on any of the underlying municipal bonds. The Firm does not consolidate Customer TOB trusts, since the Firm does not have the power to make decisions that significantly impact the economic performance of the municipal bond vehicle. The Firm's maximum exposure as a liquidity provider to Customer TOB trusts at September 30, 2019 and December 31, 2018 was $5.3 billion and $4.8 billion, respectively. The fair value of assets held by such VIEs at September 30, 2019 and December 31, 2018, was $8.6 billion and $7.7 billion, respectively. Refer to Note 22 for more information on off-balance sheet lending-related commitments.

Loan securitizations

The Firm has securitized and sold a variety of loans, including residential mortgage, credit card, and commercial mortgage. Refer to Note 14 of JPMorgan Chase's 2018 Form 10-K for a further description of the Firm's accounting policies regarding securitizations.

Securitization activity

The following table provides information related to the Firm's securitization activities for the three and nine months ended September 30, 2019 and 2018, related to assets held in Firm-sponsored securitization entities that were not consolidated by the Firm, and where sale accounting was achieved at the time of the securitization.

	Three months ended September 30,				Nine months ended September 30,			
	2019		2018		**2019**		2018	
(in millions)	Residential mortgage[e]	Commercial and other[f]	Residential mortgage[e]	Commercial and other[f]	Residential mortgage[e]	Commercial and other[f]	Residential mortgage[e]	Commercial and other[f]
Principal securitized	**$ 3,225**	**$ 1,477**	$ 1,513	$ 3,533	**$ 7,132**	**$ 4,215**	$ 5,972	$ 8,705
All cash flows during the period[a]:								
Proceeds received from loan sales as financial instruments[b][c]	**$ 3,327**	**$ 1,506**	$ 1,524	$ 3,558	**$ 7,337**	**$ 4,329**	$ 5,984	$ 8,745
Servicing fees collected[d]	**70**	**—**	80	1	**220**	**1**	240	1
Cash flows received on interests	**115**	**34**	99	99	**314**	**183**	328	230

(a) Excludes re-securitization transactions.
(b) Predominantly includes Level 2 assets.
(c) The carrying value of the loans accounted for at fair value approximated the proceeds received upon loan sale.
(d) The prior period amounts have been revised to conform with the current period presentation.
(e) Includes prime mortgages only. Excludes loan securitization activity related to U.S. GSEs and government agencies.
(f) Includes commercial mortgage and other consumer loans.

Loans and excess MSRs sold to U.S. government-sponsored enterprises, and loans in securitization transactions pursuant to Ginnie Mae guidelines

In addition to the amounts reported in the securitization activity tables above, the Firm, in the normal course of business, sells originated and purchased mortgage loans and certain originated excess MSRs on a nonrecourse basis, predominantly to U.S. GSEs. These loans and excess MSRs are sold primarily for the purpose of securitization by the U.S. GSEs, who provide certain guarantee provisions (e.g., credit enhancement of the loans). The Firm also sells loans into securitization transactions pursuant to Ginnie Mae guidelines; these loans are typically insured or guaranteed by another U.S. government agency. The Firm does not consolidate the securitization vehicles underlying these transactions as it is not the primary beneficiary. For a limited number of loan sales, the Firm is obligated to share a portion of the credit risk associated with the sold loans with the purchaser. Refer to Note 22 of this Form 10-Q, and Note 27 of JPMorgan Chase's 2018 Form 10-K for additional information about the Firm's loan sales- and securitization-related indemnifications. Refer to Note 14 for additional information about the impact of the Firm's sale of certain excess MSRs.

The following table summarizes the activities related to loans sold to the U.S. GSEs, and loans in securitization transactions pursuant to Ginnie Mae guidelines.

	Three months ended September 30,		Nine months ended September 30,	
(in millions)	**2019**	2018	**2019**	2018
Carrying value of loans sold	**$ 35,556**	$ 11,968	**$ 73,873**	$ 28,804
Proceeds received from loan sales as cash	**3**	1	**73**	1
Proceeds from loan sales as securities[(a)(b)]	**35,512**	11,713	**73,172**	28,291
Total proceeds received from loan sales[(c)]	**$ 35,515**	$ 11,714	**$ 73,245**	$ 28,292
Gains on loan sales[(d)(e)]	**$ 342**	$ 9	**$ 495**	$ 32

(a) Includes securities from U.S. GSEs and Ginnie Mae that are generally sold shortly after receipt or retained as part of the Firm's Investment securities portfolio.
(b) Included in level 2 assets.
(c) Excludes the value of MSRs retained upon the sale of loans.
(d) Gains on loan sales include the value of MSRs.
(e) The carrying value of the loans accounted for at fair value approximated the proceeds received upon loan sale.

Options to repurchase delinquent loans

In addition to the Firm's obligation to repurchase certain loans due to material breaches of representations and warranties as discussed in Note 22, the Firm also has the option to repurchase delinquent loans that it services for Ginnie Mae loan pools, as well as for other U.S. government agencies under certain arrangements. The Firm typically elects to repurchase delinquent loans from Ginnie Mae loan pools as it continues to service them and/or manage the foreclosure process in accordance with the applicable requirements, and such loans continue to be insured or guaranteed. When the Firm's repurchase option becomes exercisable, such loans must be reported on the Consolidated balance sheets as a loan with a corresponding liability. Refer to Note 11 for additional information.

The following table presents loans the Firm repurchased or had an option to repurchase, real estate owned, and foreclosed government-guaranteed residential mortgage loans recognized on the Firm's Consolidated balance sheets as of September 30, 2019 and December 31, 2018. Substantially all of these loans and real estate are insured or guaranteed by U.S. government agencies.

(in millions)	**Sep 30, 2019**	Dec 31, 2018
Loans repurchased or option to repurchase[(a)]	**$ 4,761**	$ 7,021
Real estate owned	**50**	75
Foreclosed government-guaranteed residential mortgage loans[(b)]	**241**	361

(a) Predominantly all of these amounts relate to loans that have been repurchased from Ginnie Mae loan pools.
(b) Relates to voluntary repurchases of loans, which are included in accrued interest and accounts receivable.

Loan delinquencies and liquidation losses

The table below includes information about components of nonconsolidated securitized financial assets held in Firm-sponsored private-label securitization entities, in which the Firm has continuing involvement, and delinquencies as of September 30, 2019, and December 31, 2018.

					Net liquidation losses[(a)]			
	Securitized assets		90 days past due		Three months ended September 30,		Nine months ended September 30,	
(in millions)	**Sep 30, 2019**	Dec 31, 2018	**Sep 30, 2019**	Dec 31, 2018	**2019**	2018	**2019**	2018
Securitized loans								
Residential mortgage:								
Prime / Alt-A & option ARMs	**$ 49,826**	$ 50,679	**$ 2,679**	$ 3,354	**$ 146**	$ 182	**$ 474**	$ 453
Subprime	**14,085**	15,434	**1,962**	2,478	**145**	155	**456**	(307)
Commercial and other	**86,302**	79,387	**153**	225	**118**	71	**283**	119
Total loans securitized	**$ 150,213**	$ 145,500	**$ 4,794**	$ 6,057	**$ 409**	$ 408	**$ 1,213**	$ 265

(a) Includes liquidation gains as a result of private label mortgage settlement payments during the first quarter of 2018, which were reflected as asset recoveries by trustees.

Note 14 – Goodwill and Mortgage servicing rights

Refer to Note 15 of JPMorgan Chase's 2018 Form 10-K for a discussion of the accounting policies related to goodwill and mortgage servicing rights.

Goodwill

The following table presents goodwill attributed to the business segments.

(in millions)	September 30, 2019	December 31, 2018
Consumer & Community Banking	**$ 31,038**	$ 30,984
Corporate & Investment Bank	**6,941**	6,770
Commercial Banking	**2,982**	2,860
Asset & Wealth Management	**6,857**	6,857
Total goodwill	**$ 47,818**	$ 47,471

The following table presents changes in the carrying amount of goodwill.

	Three months ended September 30,		Nine months ended September 30,	
(in millions)	**2019**	2018	**2019**	2018
Balance at beginning of period	**$ 47,477**	$ 47,488	**$ 47,471**	$ 47,507
Changes during the period from:				
Business combinations[(a)]	**348**	–	**348**	–
Other[(b)]	**(7)**	(5)	**(1)**	(24)
Balance at September 30,	**$ 47,818**	$ 47,483	**$ 47,818**	$ 47,483

(a) For the three and nine months periods ended September 30, 2019, represents goodwill associated with the July 24, 2019 acquisition of InstaMed. This goodwill was allocated to CIB, CB and CCB.

(b) Primarily relates to foreign currency adjustments.

Goodwill impairment testing

Refer to Impairment testing on pages 252–253 of JPMorgan Chase's 2018 Form 10-K for a further description of the Firm's goodwill impairment testing, including the primary method used to estimate the fair value of the reporting units, and the assumptions used in the goodwill impairment test.

The Firm reviewed current economic conditions, estimated market cost of equity, as well as actual and projections of business performance for all its businesses. Based upon such reviews, the Firm concluded that the goodwill allocated to its reporting units was not impaired as of September 30, 2019 or December 31, 2018, nor was goodwill written off due to impairment during the nine months ended September 30, 2019 or 2018.

Declines in business performance, increases in credit losses, increases in capital requirements, as well as deterioration in economic or market conditions, adverse regulatory or legislative changes or increases in the estimated market cost of equity, could cause the estimated fair values of the Firm's reporting units or their associated goodwill to decline in the future, which could result in a material impairment charge to earnings in a future period related to some portion of the associated goodwill.

Mortgage servicing rights

MSRs represent the fair value of expected future cash flows for performing servicing activities for others. The fair value considers estimated future servicing fees and ancillary revenue, offset by estimated costs to service the loans, and generally declines over time as net servicing cash flows are received, effectively amortizing the MSR asset against contractual servicing and ancillary fee income. MSRs are either purchased from third parties or recognized upon sale or securitization of mortgage loans if servicing is retained. Refer to Notes 2 and 15 of JPMorgan Chase's 2018 Form 10-K for a further description of the MSR asset, interest rate risk management, and the valuation of MSRs.

The following table summarizes MSR activity for the three and nine months ended September 30, 2019 and 2018.

(in millions, except where otherwise noted)	As of or for the three months ended September 30, 2019	As of or for the three months ended September 30, 2018	As of or for the nine months ended September 30, 2019	As of or for the nine months ended September 30, 2018
Fair value at beginning of period	**$ 5,093**	$ 6,241	**$ 6,130**	$ 6,030
MSR activity:				
Originations of MSRs	**390**	278	**1,146**	611
Purchase of MSRs	**(2)**	13	**104**	159
Disposition of MSRs[(a)]	**(359)**	(2)	**(687)**	(401)
Net additions/(dispositions)	**29**	289	**563**	369
Changes due to collection/realization of expected cash flows	**(256)**	(195)	**(702)**	(542)
Changes in valuation due to inputs and assumptions:				
Changes due to market interest rates and other[(b)]	**(433)**	150	**(1,274)**	635
Changes in valuation due to other inputs and assumptions:				
Projected cash flows (e.g., cost to service)	**17**	14	**(333)** (e)	14
Discount rates	**—**	–	**153**	24
Prepayment model changes and other[(c)]	**(31)**	(66)	**(118)**	(97)
Total changes in valuation due to other inputs and assumptions	**(14)**	(52)	**(298)**	(59)
Total changes in valuation due to inputs and assumptions	**(447)**	98	**(1,572)**	576
Fair value at September 30,	**$ 4,419**	$ 6,433	**$ 4,419**	$ 6,433
Change in unrealized gains/(losses) included in income related to MSRs held at September 30,	**$ (447)**	$ 98	**$ (1,572)**	$ 576
Contractual service fees, late fees and other ancillary fees included in income	**397**	428	**1,254**	1,339
Third-party mortgage loans serviced at September 30, (in billions)	**537**	528	**537**	528
Servicer advances, net of an allowance for uncollectible amounts, at September 30, (in billions)[(d)]	**2.0**	3.1	**2.0**	3.1

(a) Includes excess MSRs transferred to agency-sponsored trusts in exchange for stripped mortgage backed securities ("SMBS"). In each transaction, a portion of the SMBS was acquired by third parties at the transaction date; the Firm acquired the remaining balance of those SMBS as trading securities.

(b) Represents both the impact of changes in estimated future prepayments due to changes in market interest rates, and the difference between actual and expected prepayments.

(c) Represents changes in prepayments other than those attributable to changes in market interest rates.

(d) Represents amounts the Firm pays as the servicer (e.g., scheduled principal and interest, taxes and insurance), which will generally be reimbursed within a short period of time after the advance from future cash flows from the trust or the underlying loans. The Firm's credit risk associated with these servicer advances is minimal because reimbursement of the advances is typically senior to all cash payments to investors. In addition, the Firm maintains the right to stop payment to investors if the collateral is insufficient to cover the advance. However, certain of these servicer advances may not be recoverable if they were not made in accordance with applicable rules and agreements.

(e) The decrease in projected cash flows was largely related to default servicing assumption updates.

The following table presents the components of mortgage fees and related income (including the impact of MSR risk management activities) for the three and nine months ended September 30, 2019 and 2018.

(in millions)	Three months ended September 30, 2019	Three months ended September 30, 2018	Nine months ended September 30, 2019	Nine months ended September 30, 2018
CCB mortgage fees and related income				
Net production revenue	**$ 738**	$ 108	**$ 1,291**	$ 296
Net mortgage servicing revenue:				
Operating revenue:				
Loan servicing revenue	**351**	435	**1,172**	1,389
Changes in MSR asset fair value due to collection/realization of expected cash flows	**(256)**	(195)	**(702)**	(542)
Total operating revenue	**95**	240	**470**	847
Risk management:				
Changes in MSR asset fair value due to market interest rates and other[(a)]	**(433)**	150	**(1,274)**	636
Other changes in MSR asset fair value due to other inputs and assumptions in model[(b)]	**(14)**	(52)	**(298)**	(59)
Change in derivative fair value and other	**500**	(186)	**1,372**	(671)
Total risk management	**53**	(88)	**(200)**	(94)
Total net mortgage servicing revenue	**148**	152	**270**	753
Total CCB mortgage fees and related income	**886**	260	**1,561**	1,049
All other	**1**	2	**1**	2
Mortgage fees and related income	**$ 887**	$ 262	**$ 1,562**	$ 1,051

(a) Represents both the impact of changes in estimated future prepayments due to changes in market interest rates, and the difference between actual and expected prepayments.
(b) Represents the aggregate impact of changes in model inputs and assumptions such as projected cash flows (e.g., cost to service), discount rates and changes in prepayments other than those attributable to changes in market interest rates (e.g., changes in prepayments due to changes in home prices).

The table below outlines the key economic assumptions used to determine the fair value of the Firm's MSRs at September 30, 2019, and December 31, 2018, and outlines hypothetical sensitivities of those fair values to immediate adverse changes in those assumptions, as defined below.

(in millions, except rates)	Sep 30, 2019	Dec 31, 2018
Weighted-average prepayment speed assumption (constant prepayment rate)	**13.81%**	8.78%
Impact on fair value of 10% adverse change	**$ (206)**	$ (205)
Impact on fair value of 20% adverse change	**(393)**	(397)
Weighted-average option adjusted spread[(a)(b)]	**8.26%**	7.87%
Impact on fair value of a 100 basis point adverse change	**$ (150)**	$ (235)
Impact on fair value of a 200 basis point adverse change	**(289)**	(452)

(a) Includes the impact of operational risk and regulatory capital.
(b) The prior period amount has been revised to conform with the current period presentation.

Changes in fair value based on variations in assumptions generally cannot be easily extrapolated, because the relationship of the change in the assumptions to the change in fair value are often highly interrelated and may not be linear. In this table, the effect that a change in a particular assumption may have on the fair value is calculated without changing any other assumption. In reality, changes in one factor may result in changes in another, which would either magnify or counteract the impact of the initial change.

Note 15 – Deposits

Refer to Note 17 of JPMorgan Chase's 2018 Form 10-K for further information on deposits.

At September 30, 2019, and December 31, 2018, noninterest-bearing and interest-bearing deposits were as follows.

(in millions)	September 30, 2019	December 31, 2018
U.S. offices		
Noninterest-bearing (included **$23,225** and $17,204 at fair value)[a][b]	**$ 393,522**	$ 386,709
Interest-bearing (included **$2,523** and $2,487 at fair value)[a][b]	**844,137**	813,881
Total deposits in U.S. offices	**1,237,659**	1,200,590
Non-U.S. offices		
Noninterest-bearing (included **$2,289** and $2,367 at fair value)[a][b]	**21,455**	21,459
Interest-bearing (included **$1,318** and $1,159 at fair value)[a][b]	**266,147**	248,617
Total deposits in non-U.S. offices	**287,602**	270,076
Total deposits	**$ 1,525,261**	$ 1,470,666

(a) Includes structured notes classified as deposits for which the fair value option has been elected. Refer to Note 3 of JPMorgan Chase's 2018 Form 10-K for a further discussion.
(b) In the second quarter of 2019, the Firm reclassified balances related to certain structured notes from interest-bearing to noninterest-bearing deposits as the associated returns are recorded in principal transactions revenue and not in net interest income. This change was applied retrospectively and, accordingly, prior period amounts were revised to conform with the current presentation.

Note 16 – Leases

Lease commitments

Effective January 1, 2019, the Firm adopted new guidance that requires lessees to recognize on the Consolidated balance sheets all leases with lease terms greater than twelve months as a lease liability with a corresponding right-of-use ("ROU") asset. Accordingly, the Firm recognized operating lease liabilities and ROU assets of $8.2 billion and $8.1 billion, respectively. The adoption of the new lease guidance did not have a material impact on the Firm's Consolidated statements of income. The change in accounting due to the adoption of the new lease guidance did not result in a material change to the future net minimum rental payments/receivables or to the net rental expense when compared to December 31, 2018.

Firm as lessee

At September 30, 2019, JPMorgan Chase and its subsidiaries were obligated under a number of noncancelable leases, predominantly operating leases for premises and equipment used primarily for business purposes. These leases generally have terms of 20 years or less, determined based on the contractual maturity of the lease, and include periods covered by options to extend or terminate the lease when the Firm is reasonably certain that it will exercise those options. None of these lease agreements impose restrictions on the Firm's ability to pay dividends, engage in debt or equity financing transactions or enter into further lease agreements. Certain of these leases contain escalation clauses that will increase rental payments based on maintenance, utility and tax increases, which are non-lease components. The Firm elected not to separate lease and non-lease components of a contract for its real estate leases. As such, real estate lease payments represent payments on both lease and non-lease components.

Operating lease liabilities and ROU assets are recognized at the lease commencement date based on the present value of the future minimum lease payments over the lease term. The future lease payments are discounted at a rate that represents the Firm's collateralized borrowing rate for financing instruments of a similar term and are included in accounts payable and other liabilities. The operating lease ROU asset, included in premises and equipment, also includes any lease prepayments made, plus initial direct costs incurred, less any lease incentives received. Rental expense associated with operating leases is recognized on a straight-line basis over the lease term, and generally included in occupancy expense in the Consolidated statements of income.

The following tables provide information related to the Firm's operating leases:

As of September 30, (in millions, except where otherwise noted)		2019
Right-of-use assets	$	8,160
Lease liabilities		8,425
Weighted average remaining lease term (in years)		8.7
Weighted average discount rate		3.73%
Supplemental cash flow information		
Cash paid for amounts included in the measurement of lease liabilities - operating cash flows	$	1,177
Supplemental non-cash information		
Right-of-use assets obtained in exchange for operating lease obligations	$	990

(in millions)	Three months ended September 30, 2019	Nine months ended September 30, 2019
Rental expense		
Gross rental expense	$ 517	$ 1,537
Sublease rental income	(49)	(137)
Net rental expense	$ 468	$ 1,400

The following table presents future payments under operating leases as of September 30, 2019:

Year ended December 31, (in millions)		
2019 (excluding nine months ended September 30, 2019)	$	394
2020		1,569
2021		1,394
2022		1,198
2023		1,027
After 2023		4,442
Total future minimum lease payments		10,024
Less: Imputed interest		(1,599)
Total	$	8,425

In addition to the table above, as of September 30, 2019, the Firm had additional future operating lease commitments of $1.3 billion that were signed but had not yet commenced. These operating leases will commence between 2019 and 2022 with lease terms up to 25 years.

Firm as lessor

The Firm provides auto and equipment lease financing to its customers through lease arrangements with lease terms that may contain renewal, termination and/or purchase options. Generally, the Firm's lease financings are operating leases. These assets are recognized in other assets on the Firm's Consolidated balance sheets and are depreciated on a straight-line basis over the lease term to reduce the asset to its estimated residual value. Depreciation expense is included in technology, communications and equipment expense in the Consolidated statements of income. The Firm's lease income is generally recognized on a straight-line basis over the lease term and is included in other income in the Consolidated statements of income.

On a periodic basis, the Firm assesses leased assets for impairment, and if the carrying amount of the leased asset exceeds the undiscounted cash flows from the lease payments and the estimated residual value upon disposition of the leased asset, an impairment loss is recognized.

The risk of loss on auto and equipment leased assets relating to the residual value of the leased assets is monitored through projections of the asset residual values at lease origination and periodic review of residual values, and is mitigated through arrangements with certain manufacturers or lessees.

The following table presents the carrying value of assets subject to leases reported on the Consolidated balance sheets:

(in millions)	September 30, 2019	December 31, 2018
Carrying value of assets subject to operating leases, net of accumulated depreciation	**$ 22,953**	$ 21,428
Accumulated depreciation	**5,848**	5,303

The following table presents the Firm's operating lease income and the related depreciation expense on the Consolidated statements of income:

	Three months ended September 30,		Nine months ended September 30,	
(in millions)	**2019**	2018	**2019**	2018
Operating lease income	**$ 1,384**	$ 1,157	**$ 4,027**	$ 3,316
Depreciation expense	**1,053**	901	**3,038**	2,564

The following table presents future receipts under operating leases as of September 30, 2019:

Year ended December 31, (in millions)		
2019 (excluding nine months ended September 30, 2019)	$	1,121
2020		3,785
2021		2,303
2022		660
2023		74
After 2023		137
Total future minimum lease payments	$	8,080

Note 17 - Preferred stock

Refer to Note 20 of JPMorgan Chase's 2018 Form 10-K for a further discussion on preferred stock.

The following is a summary of JPMorgan Chase's non-cumulative preferred stock outstanding as of September 30, 2019 and December 31, 2018, and the quarterly dividend declarations for the three and nine months ended September 30, 2019 and 2018.

	Shares		Carrying value (in millions)						Dividend declared per share[c]				
									Three months ended September 30,		Nine months ended September 30,		
	September 30, 2019[a]	December 31, 2018[a]	**September 30, 2019**	December 31, 2018	Issue date	Contractual rate in effect at September 30, 2019	Earliest redemption date[b]	Floating annualized rate of three-month LIBOR/Term SOFR plus:	**2019**	2018	**2019**	2018	
Fixed-rate:													
Series P	**90,000**	90,000	**$ 900**	$ 900	2/5/2013	**5.450%**	3/1/2018	NA	**$ 136.25**	$136.25	**$ 408.75**	$408.75	
Series T	**—**	92,500	**—**	925	1/30/2014	**—**	3/1/2019	NA	**NA**	167.50	**167.50**	502.50	
Series W	**—**	88,000	**—**	880	6/23/2014	**—**	9/1/2019	NA	**NA**	157.50	**472.50**	472.50	
Series Y	**143,000**	143,000	**1,430**	1,430	2/12/2015	**6.125**	3/1/2020	NA	**153.13**	153.13	**459.39**	459.39	
Series AA	**142,500**	142,500	**1,425**	1,425	6/4/2015	**6.100**	9/1/2020	NA	**152.50**	152.50	**457.50**	457.50	
Series BB	**115,000**	115,000	**1,150**	1,150	7/29/2015	**6.150**	9/1/2020	NA	**153.75**	153.75	**461.25**	461.25	
Series DD	**169,625**	169,625	**1,696**	1,696	9/21/2018	**5.750**	12/1/2023	NA	**143.75**	NA	**431.25**	NA	
Series EE	**185,000**	—	**1,850**	—	1/24/2019	**6.000**	3/1/2024	NA	**150.00**	NA	**361.67**	NA	
Fixed-to-floating-rate:													
Series I	**430,375**	430,375	**$ 4,304**	$ 4,304	4/23/2008	**LIBOR + 3.47%**	4/30/2018	LIBOR + 3.47%	**$ 146.58**	$148.45	**$ 455.09**	$493.29	(d)
Series Q	**150,000**	150,000	**1,500**	1,500	4/23/2013	**5.150**	5/1/2023	LIBOR + 3.25	**128.75**	128.75	**386.25**	386.25	
Series R	**150,000**	150,000	**1,500**	1,500	7/29/2013	**6.000**	8/1/2023	LIBOR + 3.30	**150.00**	150.00	**450.00**	450.00	
Series S	**200,000**	200,000	**2,000**	2,000	1/22/2014	**6.750**	2/1/2024	LIBOR + 3.78	**168.75**	168.75	**506.25**	506.25	
Series U	**100,000**	100,000	**1,000**	1,000	3/10/2014	**6.125**	4/30/2024	LIBOR + 3.33	**153.13**	153.13	**459.38**	459.38	
Series V	**250,000**	250,000	**2,500**	2,500	6/9/2014	**LIBOR + 3.32%**	7/1/2019	LIBOR + 3.32	**144.11**	125.00	**394.11**	375.00	(e)
Series X	**160,000**	160,000	**1,600**	1,600	9/23/2014	**6.100**	10/1/2024	LIBOR + 3.33	**152.50**	152.50	**457.50**	457.50	
Series Z	**200,000**	200,000	**2,000**	2,000	4/21/2015	**5.300**	5/1/2020	LIBOR + 3.80	**132.50**	132.50	**397.50**	397.50	
Series CC	**125,750**	125,750	**1,258**	1,258	10/20/2017	**4.625**	11/1/2022	LIBOR + 2.58	**115.63**	115.63	**346.88**	346.88	
Series FF	**225,000**	—	**2,250**	—	7/31/2019	**5.000**	8/1/2024	SOFR + 3.38	**126.39**	NA	**126.39**	NA	(f)
Total preferred stock	**2,836,250**	2,606,750	**$ 28,363**	$ 26,068									

(a) Represented by depositary shares.
(b) Fixed-to-floating rate notes convert to a floating rate at the earliest redemption date.
(c) Dividends are declared quarterly. Dividends are payable quarterly on fixed-rate preferred stock. Dividends are payable semiannually on fixed-to-floating-rate preferred stock while at a fixed rate, and payable quarterly after converting to a floating rate.
(d) Prior to April 30, 2018, the dividend rate was fixed at 7.90%.
(e) Prior to July 1, 2019, the dividend rate was fixed at 5%.
(f) Dividends in the amount of $126.39 per share were declared on September 9, 2019 and include dividends from the original issue date of July 31, 2019 through October 31, 2019.

On October 31, 2019, the Firm announced and priced an offering of depositary shares representing $900 million of 4.75% non-cumulative preferred stock, Series GG. This issuance is expected to close on November 7, 2019. On November 1, 2019, the Firm announced that it will redeem all $900 million of its 5.45% non-cumulative preferred stock, Series P on December 1, 2019.

On October 30, 2019, the Firm redeemed $1.37 billion of its Series I fixed-to-floating rate non-cumulative perpetual preferred stock.

On September 1, 2019, the Firm redeemed all $880 million of its 6.3% non-cumulative preferred stock, series W.

On July 31, 2019, the Firm issued $2.25 billion of fixed-to-floating rate non-cumulative preferred stock, Series FF.

On January 24, 2019, the Firm issued $1.85 billion of 6.00% non-cumulative preferred stock, Series EE, and on March 1, 2019, the Firm redeemed all $925 million of its 6.70% non-cumulative preferred stock, Series T.

Note 18 – Earnings per share

Refer to Note 22 of JPMorgan Chase's 2018 Form 10-K for a discussion of the computation of basic and diluted earnings per share ("EPS"). The following table presents the calculation of basic and diluted EPS for the three and nine months ended September 30, 2019 and 2018.

(in millions, except per share amounts)	Three months ended September 30,		Nine months ended September 30,	
	2019	2018	**2019**	2018
Basic earnings per share				
Net income	**$ 9,080**	$ 8,380	**$ 27,911**	$ 25,408
Less: Preferred stock dividends	**423**	379	**1,201**	1,167
Net income applicable to common equity	**8,657**	8,001	**26,710**	24,241
Less: Dividends and undistributed earnings allocated to participating securities	**51**	53	**159**	174
Net income applicable to common stockholders	**$ 8,606**	$ 7,948	**$ 26,551**	$ 24,067
Total weighted-average basic shares outstanding	**3,198.5**	3,376.1	**3,248.7**	3,416.5
Net income per share	**$ 2.69**	$ 2.35	**$ 8.17**	$ 7.04
Diluted earnings per share				
Net income applicable to common stockholders	**$ 8,606**	$ 7,948	**$ 26,551**	$ 24,067
Total weighted-average basic shares outstanding	**3,198.5**	3,376.1	**3,248.7**	3,416.5
Add: Employee stock options, SARs, warrants and unvested PSUs	**8.7**	18.2	**9.3**	19.7
Total weighted-average diluted shares outstanding	**3,207.2**	3,394.3	**3,258.0**	3,436.2
Net income per share	**$ 2.68**	$ 2.34	**$ 8.15**	$ 7.00

Note 19 – Accumulated other comprehensive income/(loss)

AOCI includes the after-tax change in unrealized gains and losses on investment securities, foreign currency translation adjustments (including the impact of related derivatives), fair value changes of excluded components on fair value hedges, cash flow hedging activities, net loss and prior service costs/(credit) related to the Firm's defined benefit pension and OPEB plans, and on fair value option-elected liabilities arising from changes in the Firm's own credit risk (DVA).

As of or for the three months ended September 30, 2019 (in millions)	Unrealized gains/(losses) on investment securities	Translation adjustments, net of hedges	Fair value hedges	Cash flow hedges	Defined benefit pension and OPEB plans	DVA on fair value option elected liabilities	Accumulated other comprehensive income/(loss)
Balance at July 1, 2019	**$ 3,709**	**$ (652)**	**$ (73)**	**$ 126**	**$ (2,231)**	**$ 235**	**$ 1,114**
Net change	**479**	**(165)**	**(1)**	**195**	**46**	**132**	**686**
Balance at September 30, 2019	**$ 4,188**	**$ (817)**	**$ (74)**	**$ 321**	**$ (2,185)**	**$ 367**	**$ 1,800**

As of or for the three months ended September 30, 2018 (in millions)	Unrealized gains/(losses) on investment securities	Translation adjustments, net of hedges	Fair value hedges	Cash flow hedges	Defined benefit pension and OPEB plans	DVA on fair value option elected liabilities	Accumulated other comprehensive income/(loss)
Balance at July 1, 2018	$ 1,599	$ (632)	(162)	$ (147)	$ (1,876)	$ 80	$ (1,138)
Net change	(819)	(31)	34	(88)	19	(402)	(1,287)
Balance at September 30, 2018	$ 780	$ (663)	$ (128)	$ (235)	$ (1,857)	$ (322)	$ (2,425)

As of or for the nine months ended September 30, 2019 (in millions)	Unrealized gains/(losses) on investment securities	Translation adjustments, net of hedges	Fair value hedges	Cash flow hedges	Defined benefit pension and OPEB plans	DVA on fair value option elected liabilities	Accumulated other comprehensive income/(loss)
Balance at January 1, 2019	**$ 1,202**	**$ (727)**	**$ (161)**	**$ (109)**	**$ (2,308)**	**$ 596**	**$ (1,507)**
Net change	**2,986**	**(90)**	**87**	**430**	**123**	**(229)**	**3,307**
Balance at September 30, 2019	**$ 4,188**	**$ (817)**	**$ (74)**	**$ 321**	**$ (2,185)**	**$ 367**	**$ 1,800**

As of or for the nine months ended September 30, 2018 (in millions)	Unrealized gains/(losses) on investment securities	Translation adjustments, net of hedges	Fair value hedges	Cash flow hedges	Defined benefit pension and OPEB plans	DVA on fair value option elected liabilities	Accumulated other comprehensive income/(loss)
Balance at January 1, 2018	$ 2,164	$ (470)	$ –	$ 76	$ (1,521)	$ (368)	$ (119)
Cumulative effect of changes in accounting principles[(a)]	896	(277)	$ (54)	16	(414)	(79)	88
Net change	(2,280)	84	(74)	(327)	78	125	(2,394)
Balance at September 30, 2018	$ 780	$ (663)	$ (128)	$ (235)	$ (1,857)	$ (322)	$ (2,425)

(a) Represents the adjustment to AOCI as a result of the accounting standards adopted in the first quarter of 2018, refer to Note 1 of JPMorgan Chase's 2018 Form 10-K.

The following table presents the pre-tax and after-tax changes in the components of OCI.

Three months ended September 30, (in millions)	2019 Pre-tax	2019 Tax effect	2019 After-tax	2018 Pre-tax	2018 Tax effect	2018 After-tax
Unrealized gains/(losses) on investment securities:						
Net unrealized gains/(losses) arising during the period	$ 708	$ (169)	$ 539	$ (1,117)	$ 262	$ (855)
Reclassification adjustment for realized (gains)/losses included in net income[(a)]	(78)	18	(60)	46	(10)	36
Net change	630	(151)	479	(1,071)	252	(819)
Translation adjustments:						
Translation	(861)	40	(821)	(314)	45	(269)
Hedges	866	(210)	656	311	(73)	238
Net change	5	(170)	(165)	(3)	(28)	(31)
Fair value hedges, net change[(b)]:	(1)	–	(1)	45	(11)	34
Cash flow hedges:						
Net unrealized gains/(losses) arising during the period	222	(55)	167	(122)	27	(95)
Reclassification adjustment for realized (gains)/losses included in net income[(c)]	37	(9)	28	9	(2)	7
Net change	259	(64)	195	(113)	25	(88)
Defined benefit pension and OPEB plans:						
Net gain/(loss) arising during the period	–	–	–	–	–	–
Reclassification adjustments included in net income[(d)]:						
Amortization of net loss	42	(10)	32	26	(6)	20
Amortization of prior service cost/(credit)	–	–	–	(7)	2	(5)
Foreign exchange and other	18	(4)	14	7	(3)	4
Net change	60	(14)	46	26	(7)	19
DVA on fair value option elected liabilities, net change:	173	(41)	132	(527)	125	(402)
Total other comprehensive income/(loss)	$ 1,126	$ (440)	$ 686	$ (1,643)	$ 356	$ (1,287)

Nine months ended September 30, (in millions)	2019 Pre-tax	2019 Tax effect	2019 After-tax	2018 Pre-tax	2018 Tax effect	2018 After-tax
Unrealized gains/(losses) on investment securities:						
Net unrealized gains/(losses) arising during the period	$ 4,074	$ (985)	$ 3,089	$ (3,351)	$ 787	$ (2,564)
Reclassification adjustment for realized (gains)/losses included in net income[(a)]	(135)	32	(103)	371	(87)	284
Net change	3,939	(953)	2,986	(2,980)	700	(2,280)
Translation adjustments[(e)]:						
Translation	(697)	76	(621)	(981)	188	(793)
Hedges	700	(169)	531	1,149	(272)	877
Net change	3	(93)	(90)	168	(84)	84
Fair value hedges, net change[(b)]:	114	(27)	87	(96)	22	(74)
Cash flow hedges:						
Net unrealized gains/(losses) arising during the period	464	(112)	352	(365)	85	(280)
Reclassification adjustment for realized (gains)/losses included in net income[(c)]	102	(24)	78	(62)	15	(47)
Net change	566	(136)	430	(427)	100	(327)
Defined benefit pension and OPEB plans:						
Net gain/(loss) arising during the period	2	(2)	–	25	(6)	19
Reclassification adjustments included in net income[(d)]:						
Amortization of net loss	125	(26)	99	78	(18)	60
Amortization of prior service cost/(credit)	2	(1)	1	(19)	5	(14)
Settlement (gain)/loss	–	–	–	–	–	–
Foreign exchange and other	19	4	23	19	(6)	13
Net change	148	(25)	123	103	(25)	78
DVA on fair value option elected liabilities, net change:	$ (296)	$ 67	$ (229)	$ 163	$ (38)	$ 125
Total other comprehensive income/(loss)	$ 4,474	$ (1,167)	$ 3,307	$ (3,069)	$ 675	$ (2,394)

(a) The pre-tax amount is reported in Investment securities gains/(losses) in the Consolidated statements of income.

(b) Represents changes in fair value of cross-currency swaps attributable to changes in cross-currency basis spreads, which are excluded from the assessment of hedge effectiveness and recorded in other comprehensive income. The initial cost of cross-currency basis spreads is recognized in earnings as part of the accrual of interest on the cross currency swap.

(c) The pre-tax amounts are predominantly recorded in noninterest revenue, net interest income and compensation expense in the Consolidated statements of income.

(d) The pre-tax amount is reported in other expense in the Consolidated statements of income.

(e) Reclassifications of pre-tax realized gains/(losses) on translation adjustments and related hedges are reported in other income/expense in the Consolidated statements of income. During the nine months ended September 30, 2019, the Firm reclassified net pre-tax gains of $6 million to other income and $1 million to other expense, respectively. These amounts, which related to the liquidation of certain legal entities, are comprised of $5 million related to net investment hedge gains and $2 million related to cumulative translation adjustments. During the nine months ended September 30, 2018, the Firm reclassified a net pre-tax loss of $174 million to other expense related to the liquidation of a legal entity, $23 million related to net investment hedge losses and $151 million related to cumulative translation adjustments.

Note 20 – Restricted cash and other restricted assets

Refer to Note 25 of JPMorgan Chase's 2018 Form 10-K for a detailed discussion of the Firm's restricted cash and other restricted assets.

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.

The Firm is also subject to rules and regulations established by other U.S. and non U.S. regulators. As part of its compliance with the respective regulatory requirements, the Firm's broker-dealer activities are subject to certain restrictions on cash and other assets.

The following table presents the components of the Firm's restricted cash:

(in billions)	September 30, 2019	December 31, 2018
Cash reserves – Federal Reserve Banks	**$ 26.7**	$ 22.1
Segregated for the benefit of securities and futures brokerage customers	**16.8**	14.6
Cash reserves at non-U.S. central banks and held for other general purposes	**3.6**	4.1
Total restricted cash[(a)]	**$ 47.1**	$ 40.8

(a) Comprises $45.9 billion and $39.6 billion in deposits with banks as of September 30, 2019 and December 31, 2018, respectively, and $1.2 billion in cash and due from banks as of September 30, 2019 and December 31, 2018, on the Consolidated balance sheets.

Also, as of September 30, 2019 and December 31, 2018, the Firm had the following other restricted assets:

- Cash and securities pledged with clearing organizations for the benefit of customers of $23.6 billion and $20.6 billion, respectively.
- Securities with a fair value of $13.1 billion and $9.7 billion, respectively, were also restricted in relation to customer activity.

Note 21 – Regulatory capital

Refer to Note 26 of JPMorgan Chase's 2018 Form 10-K for a detailed discussion on regulatory capital.

The Federal Reserve establishes capital requirements, including well-capitalized standards, for the consolidated financial holding company. The Office of the Comptroller of the Currency ("OCC") establishes similar minimum capital requirements and standards for the Firm's insured depository institutions ("IDI"), including JPMorgan Chase Bank, N.A.

Effective January 1, 2019, the capital adequacy of the Firm and JPMorgan Chase Bank, N.A. is evaluated against the fully phased-in measures under Basel III and represents the lower of the Standardized or Advanced approaches. During 2018, the required capital measures were subject to the transitional rules and as of December 31, 2018 were the same on a fully phased-in and on a transitional basis.

Under the risk-based capital and leverage-based guidelines of the Federal Reserve, JPMorgan Chase is required to maintain minimum ratios for CET1, Tier 1, Total, Tier 1 leverage and the SLR. Failure to meet these minimum requirements could cause the Federal Reserve to take action. IDI subsidiaries are also subject to these capital requirements by their respective primary regulators.

The following table represents the minimum and well-capitalized ratios to which the Firm and its IDI subsidiaries were subject as of September 30, 2019.

	Minimum capital ratios		Well-capitalized ratios	
	BHC[(a)(e)(f)]	IDI[(b)(e)(f)]	BHC[(c)]	IDI[(d)]
Capital ratios				
CET1	10.5%	7.0%	N/A	6.5%
Tier 1	12.0	8.5	6.0	8.0
Total	14.0	10.5	10.0	10.0
Tier 1 leverage	4.0	4.0	N/A	5.0
SLR	5.0	6.0	N/A	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 under Basel III. The CET1 minimum capital ratio includes a capital conservation buffer of 2.5% and GSIB surcharge of 3.5% as calculated under Method 2.

(b) Represents requirements for JPMorgan Chase's IDI subsidiaries. The CET1 minimum capital ratio includes a capital conservation buffer 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) For the period ended December 31, 2018, the CET1, Tier 1, Total and Tier 1 leverage minimum capital ratios applicable to the Firm were 9.0%, 10.5%, 12.5%, and 4.0% and the CET1, Tier 1, Total and Tier 1 leverage minimum capital ratios applicable to the Firm's IDI subsidiaries were 6.375%, 7.875%, 9.875%, and 4.0%, respectively.

(f) Represents minimum SLR requirement of 3.0%, as well as, supplementary leverage buffers of 2.0% and 3.0% for BHC and IDI, respectively.

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 Standardized and Basel III Advanced Approaches. As of September 30, 2019 and December 31, 2018, JPMorgan Chase and JPMorgan Chase Bank, N.A. were well-capitalized and met all capital requirements to which each was subject.

September 30, 2019 (in millions, except ratios)	Basel III Standardized Fully Phased-In		Basel III Advanced Fully Phased-In	
	JPMorgan Chase & Co.	JPMorgan Chase Bank, N.A.	JPMorgan Chase & Co.	JPMorgan Chase Bank, N.A.
Regulatory capital				
CET1 capital	**$ 188,151**	**$ 205,347**	**$ 188,151**	**$ 205,347**
Tier 1 capital	**214,831**	**205,347**	**214,831**	**205,347**
Total capital	**243,500**	**223,038**	**233,203**	**212,919**
Assets				
Risk-weighted	**1,527,762**	**1,445,648**	**1,435,693**	**1,302,749**
Adjusted average[(a)]	**2,717,852**	**2,339,858**	**2,717,852**	**2,339,858**
Capital ratios[(b)]				
CET1	**12.3%**	**14.2%**	**13.1%**	**15.8%**
Tier 1	**14.1**	**14.2**	**15.0**	**15.8**
Total	**15.9**	**15.4**	**16.2**	**16.3**
Tier 1 leverage[(c)]	**7.9**	**8.8**	**7.9**	**8.8**

December 31, 2018 (in millions, except ratios)	Basel III Standardized Transitional		Basel III Advanced Transitional	
	JPMorgan Chase & Co.	JPMorgan Chase Bank, N.A.[(d)]	JPMorgan Chase & Co.	JPMorgan Chase Bank, N.A.[(d)]
Regulatory capital				
CET1 capital	$ 183,474	$ 211,671	$ 183,474	$ 211,671
Tier 1 capital	209,093	211,671	209,093	211,671
Total capital	237,511	229,952	227,435	220,025
Assets				
Risk-weighted	1,528,916	1,446,529	1,421,205	1,283,146
Adjusted average[(a)]	2,589,887	2,250,480	2,589,887	2,250,480
Capital ratios[(b)]				
CET1	12.0%	14.6%	12.9%	16.5%
Tier 1	13.7	14.6	14.7	16.5
Total	15.5	15.9	16.0	17.1
Tier 1 leverage[(c)]	8.1	9.4	8.1	9.4

(a) Adjusted average assets, for purposes of calculating the Tier 1 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.

(b) For each of the risk-based capital ratios, the capital adequacy of the Firm and JPMorgan Chase Bank, N.A. is evaluated against the lower of the two ratios as calculated under Basel III approaches (Standardized or Advanced).

(c) The Tier 1 leverage ratio is not a risk-based measure of capital.

(d) On May 18, 2019, Chase Bank USA, N.A. merged with and into JPMorgan Chase Bank, N.A., with JPMorgan Chase Bank, N.A as the surviving entity. The December 31, 2018 amounts reported for JPMorgan Chase Bank, N.A. retrospectively reflect the impact of the merger.

	September 30, 2019		December 31, 2018	
	Basel III Advanced Fully Phased-In		Basel III Advanced Fully Phased-In	
(in millions, except ratios)	JPMorgan Chase & Co.	JPMorgan Chase Bank, N.A.	JPMorgan Chase & Co.	JPMorgan Chase Bank, N.A.[(a)]
Total leverage exposure	**$ 3,404,535**	**$ 3,007,280**	$ 3,269,988	$ 2,915,541
SLR	**6.3%**	**6.8%**	6.4%	7.3%

(a) On May 18, 2019, Chase Bank USA, N.A. merged with and into JPMorgan Chase Bank, N.A., with JPMorgan Chase Bank, N.A as the surviving entity. The December 31, 2018 amounts reported for JPMorgan Chase Bank, N.A. retrospectively reflect the impact of the merger.

Note 22 – Off–balance sheet lending-related financial instruments, guarantees, and other commitments

JPMorgan Chase provides lending-related financial instruments (e.g., commitments and guarantees) to address the financing needs of its customers and clients. The contractual amount of these financial instruments represents the maximum possible credit risk to the Firm should the customer or client draw upon the commitment or the Firm be required to fulfill its obligation under the guarantee, and should the customer or client subsequently fail to perform according to the terms of the contract. Most of these commitments and guarantees are refinanced, extended, cancelled, or expire without being drawn or a default occurring. As a result, the total contractual amount of these instruments is not, in the Firm's view, representative of its expected future credit exposure or funding requirements. Refer to Note 27 of JPMorgan Chase's 2018 Form 10-K for a further discussion of lending-related commitments and guarantees, and the Firm's related accounting policies.

To provide for probable credit losses inherent in wholesale and certain consumer lending-related commitments, an allowance for credit losses on lending-related commitments is maintained. Refer to Note 12 for further information regarding the allowance for credit losses on lending-related commitments. The following table summarizes the contractual amounts and carrying values of off-balance sheet lending-related financial instruments, guarantees and other commitments at September 30, 2019, and December 31, 2018. The amounts in the table below for credit card and home equity lending-related commitments represent the total available credit for these products. The Firm has not experienced, and does not anticipate, that all available lines of credit for these products will be utilized at the same time. The Firm can reduce or cancel credit card lines of credit by providing the borrower notice or, in some cases as permitted by law, without notice. In addition, the Firm typically closes credit card lines when the borrower is 60 days or more past due. The Firm may reduce or close HELOCs when there are significant decreases in the value of the underlying property, or when there has been a demonstrable decline in the creditworthiness of the borrower.

Off-balance sheet lending-related financial instruments, guarantees and other commitments

By remaining maturity (in millions)	Contractual amount						Carrying value[g]	
	September 30, 2019					Dec 31, 2018	Sep 30, 2019	Dec 31, 2018
	Expires in 1 year or less	Expires after 1 year through 3 years	Expires after 3 years through 5 years	Expires after 5 years	Total	Total		
Lending-related								
Consumer, excluding credit card:								
Home equity	**$ 597**	**$ 1,156**	**$ 2,353**	**$ 17,077**	**$ 21,183**	$ 20,901	**$ 12**	$ 12
Residential mortgage[a]	**10,904**	**—**	**—**	**12**	**10,916**	5,481	**—**	—
Auto	**8,062**	**1,238**	**118**	**49**	**9,467**	8,011	**2**	2
Consumer & Business Banking	**10,324**	**643**	**106**	**952**	**12,025**	11,673	**19**	19
Total consumer, excluding credit card	**29,887**	**3,037**	**2,577**	**18,090**	**53,591**	46,066	**33**	33
Credit card	**645,880**	**—**	**—**	**—**	**645,880**	605,379	**—**	—
Total consumer[b]	**675,767**	**3,037**	**2,577**	**18,090**	**699,471**	651,445	**33**	33
Wholesale:								
Other unfunded commitments to extend credit[c]	**55,258**	**128,911**	**161,963**	**11,200**	**357,332**	351,490	**912**	852
Standby letters of credit and other financial guarantees[c]	**16,373**	**10,525**	**5,349**	**1,842**	**34,089**	33,498	**605**	521
Other letters of credit[c]	**3,853**	**305**	**40**	**—**	**4,198**	2,825	**5**	3
Total wholesale[b]	**75,484**	**139,741**	**167,352**	**13,042**	**395,619**	387,813	**1,522**	1,376
Total lending-related	**$ 751,251**	**$ 142,778**	**$ 169,929**	**$ 31,132**	**$ 1,095,090**	$1,039,258	**$ 1,555**	$ 1,409
Other guarantees and commitments								
Securities lending indemnification agreements and guarantees[d]	**$ 214,338**	**$ —**	**$ —**	**$ —**	**$ 214,338**	$ 186,077	**$ —**	$ —
Derivatives qualifying as guarantees	**1,772**	**196**	**12,081**	**40,369**	**54,418**	55,271	**231**	367
Unsettled resale and securities borrowed agreements	**122,946**	**1,125**	**66**	**—**	**124,137**	102,008	—	—
Unsettled repurchase and securities loaned agreements	**120,679**	**670**	**—**	**—**	**121,349**	57,732	—	—
Loan sale and securitization-related indemnifications:								
Mortgage repurchase liability	**NA**	**NA**	**NA**	**NA**	**NA**	NA	**61**	89
Loans sold with recourse	**NA**	**NA**	**NA**	**NA**	**1,001**	1,019	**27**	30
Exchange & clearing house guarantees and commitments[e]	**161,580**	**—**	**—**	**—**	**161,580**	58,960	**—**	—
Other guarantees and commitments[f]	**4,098**	**590**	**260**	**2,832**	**7,780**	8,183	**(89)**	(73)

(a) Includes certain commitments to purchase loans from correspondents.
(b) Predominantly all consumer and wholesale lending-related commitments are in the U.S.
(c) At September 30, 2019, and December 31, 2018, reflected the contractual amount net of risk participations totaling $198 million and $282 million respectively, for other unfunded commitments to extend credit; $9.7 billion and $10.4 billion, respectively, for standby letters of credit and other financial guarantees; and $705 million and $385 million, respectively, for other letters of credit. In regulatory filings with the Federal Reserve these commitments are shown gross of risk participations.
(d) At September 30, 2019, and December 31, 2018, collateral held by the Firm in support of securities lending indemnification agreements was $226.5 billion and $195.6 billion, respectively. Securities lending collateral primarily consists of cash, G7 government securities, and securities issued by U.S. GSEs and government agencies.
(e) At September 30, 2019, and December 31, 2018, includes guarantees to the Fixed Income Clearing Corporation under the sponsored member repo program and commitments and guarantees associated with the Firm's membership in certain clearing houses.
(f) At September 30, 2019, and December 31, 2018, primarily includes letters of credit hedged by derivative transactions and managed on a market risk basis, and unfunded commitments related to institutional lending. Additionally, includes unfunded commitments predominantly related to certain tax-oriented equity investments.
(g) For lending-related products, the carrying value represents the allowance for lending-related commitments and the guarantee liability; for derivative-related products, the carrying value represents the fair value.

Other unfunded commitments to extend credit

Other unfunded commitments to extend credit generally consist of commitments for working capital and general corporate purposes, extensions of credit to support commercial paper facilities and bond financings in the event that those obligations cannot be remarketed to new investors, as well as committed liquidity facilities to clearing organizations. The Firm also issues commitments under multipurpose facilities which could be drawn upon in several forms, including the issuance of a standby letter of credit.

Standby letters of credit and other financial guarantees

Standby letters of credit and other financial guarantees are conditional lending commitments issued by the Firm to guarantee the performance of a client or customer to a third party under certain arrangements, such as commercial paper facilities, bond financings, acquisition financings, trade and similar transactions.

The following table summarizes the contractual amount and carrying value of standby letters of credit and other financial guarantees and other letters of credit arrangements as of September 30, 2019, and December 31, 2018.

Standby letters of credit, other financial guarantees and other letters of credit

	September 30, 2019		December 31, 2018	
(in millions)	Standby letters of credit and other financial guarantees	Other letters of credit	Standby letters of credit and other financial guarantees	Other letters of credit
Investment-grade[(a)]	**$ 27,131**	**$ 3,249**	$ 26,420	$ 2,079
Noninvestment-grade[(a)]	**6,958**	**949**	7,078	746
Total contractual amount	**$ 34,089**	**$ 4,198**	$ 33,498	$ 2,825
Allowance for lending-related commitments	**$ 215**	**$ 5**	$ 167	$ 3
Guarantee liability	**390**	**—**	354	—
Total carrying value	**$ 605**	**$ 5**	$ 521	$ 3
Commitments with collateral	**$ 17,690**	**$ 877**	$ 17,400	$ 583

(a) The ratings scale is based on the Firm's internal ratings which generally correspond to ratings as defined by S&P and Moody's.

Derivatives qualifying as guarantees

The Firm transacts in certain derivative contracts that have the characteristics of a guarantee under U.S. GAAP. Refer to Note 27 of JPMorgan Chase's 2018 Form 10-K for further information on these derivatives.

The following table summarizes the derivatives qualifying as guarantees as of September 30, 2019, and December 31, 2018.

(in millions)	**September 30, 2019**	December 31, 2018
Notional amounts		
Derivative guarantees	**$ 54,418**	$ 55,271
Stable value contracts with contractually limited exposure	**28,886**	28,637
Maximum exposure of stable value contracts with contractually limited exposure	**2,960**	2,963
Fair value		
Derivative payables	**231**	367
Derivative receivables	**—**	—

In addition to derivative contracts that meet the characteristics of a guarantee, the Firm is both a purchaser and seller of credit protection in the credit derivatives market. Refer to Note 4 for a further discussion of credit derivatives.

Loan sales- and securitization-related indemnifications

In connection with the Firm's mortgage loan sale and securitization activities with GSEs the Firm has made representations and warranties that the loans sold meet certain requirements, and that may require the Firm to repurchase mortgage loans and/or indemnify the loan purchaser if such representations and warranties are breached by the Firm. Further, although the Firm's securitizations are predominantly nonrecourse, the Firm does provide recourse servicing in certain limited cases where it agrees to share credit risk with the owner of the mortgage loans. Refer to Note 27 of JPMorgan Chase's 2018 Form 10-K for additional information.

The liability related to repurchase demands associated with private label securitizations is separately evaluated by the Firm in establishing its litigation reserves. Refer to Note 24 of this Form 10-Q and Note 29 of JPMorgan Chase's 2018 Form 10-K for additional information regarding litigation.

Sponsored member repo program

In 2018 the Firm commenced the sponsored member repo program, wherein the Firm acts as a sponsoring member to clear eligible overnight resale and repurchase agreements through the Government Securities Division of the Fixed Income Clearing Corporation ("FICC") on behalf of clients that become sponsored members under the FICC's rules. The Firm also guarantees to the FICC the prompt and full payment and performance of its sponsored member clients' respective obligations under the FICC's rules. The Firm minimizes its liability under these overnight guarantees by obtaining a security interest in the cash or high-quality securities collateral that the clients place with the clearing house therefore the Firm expects the risk of loss to be remote. The Firm's maximum possible exposure, without taking into consideration the associated collateral, is included in the Exchange & clearing house guarantees and commitments line on page 157. Refer to Note 11 of JPMorgan Chase's 2018 Form 10-K for additional information on credit risk mitigation practices on resale agreements and the types of collateral pledged under repurchase agreements.

Guarantees of subsidiaries

The Parent Company has guaranteed certain long-term debt and structured notes of its subsidiaries, including JPMorgan Chase Financial Company LLC ("JPMFC"), a 100%-owned finance subsidiary. All securities issued by JPMFC are fully and unconditionally guaranteed by the Parent Company. These guarantees, which rank on a parity with the Firm's unsecured and unsubordinated indebtedness, are not included in the table on page 157 of this Note. Refer to Note 19 of JPMorgan Chase's 2018 Form 10-K for additional information.

Note 23 – Pledged assets and collateral

Refer to Note 28 of JPMorgan Chase's 2018 Form 10-K for a discussion of the Firm's pledged assets and collateral.

Pledged assets

The Firm may pledge financial assets that it owns to maintain potential borrowing capacity at discount windows with Federal Reserve banks, various other central banks and FHLBs. Additionally, pledged assets are used for other purposes, including to collateralize repurchase and other securities financing agreements, to cover short sales and to collateralize derivative contracts and deposits. Certain of these pledged assets may be sold or repledged or otherwise used by the secured parties and are parenthetically identified on the Consolidated balance sheets as assets pledged.

The following table presents the Firm's pledged assets.

(in billions)	September 30, 2019	December 31, 2018
Assets that may be sold or repledged or otherwise used by secured parties	**$ 154.2**	$ 104.0
Assets that may not be sold or repledged or otherwise used by secured parties	**94.5**	83.7
Assets pledged at Federal Reserve banks and FHLBs	**487.1**	475.3
Total assets pledged	**$ 735.8**	$ 663.0

Total assets pledged do not include assets of consolidated VIEs; these assets are used to settle the liabilities of those entities. Refer to Note 13 for additional information on assets and liabilities of consolidated VIEs. Refer to Note 10 for additional information on the Firm's securities financing activities. Refer to Note 19 of JPMorgan Chase's 2018 Form 10-K for additional information on the Firm's long-term debt.

Collateral

The Firm accepts financial assets as collateral that it is permitted to sell or repledge, deliver or otherwise use. This collateral is generally obtained under resale and other securities financing agreements, prime brokerage-related held-for-investment customer receivables and derivative contracts. Collateral is generally used under repurchase and other securities financing agreements, to cover short sales and to collateralize derivative contracts and deposits.

The following table presents the fair value of collateral accepted.

(in billions)	September 30, 2019	December 31, 2018
Collateral permitted to be sold or repledged, delivered, or otherwise used	**$ 1,264.1**	$ 1,245.3
Collateral sold, repledged, delivered or otherwise used	**1,017.3**	998.3

Note 24 – Litigation

Contingencies

As of September 30, 2019, the Firm and its subsidiaries and affiliates are defendants, putative defendants or respondents in numerous legal proceedings, including private, civil litigations and regulatory/government investigations. The litigations range from individual actions involving a single plaintiff to class action lawsuits with potentially millions of class members. Investigations involve both formal and informal proceedings, by both governmental agencies and self-regulatory organizations. These legal proceedings are at varying stages of adjudication, arbitration or investigation, and involve each of the Firm's lines of business and several geographies and a wide variety of claims (including common law tort and contract claims and statutory antitrust, securities and consumer protection claims), some of which present novel legal theories.

The Firm believes the estimate of the aggregate range of reasonably possible losses, in excess of reserves established, for its legal proceedings is from $0 to approximately $1.3 billion at September 30, 2019. This estimated aggregate range of reasonably possible losses was based upon information available as of that date for those proceedings in which the Firm believes that an estimate of reasonably possible loss can be made. For certain matters, the Firm does not believe that such an estimate can be made, as of that date. The Firm's estimate of the aggregate range of reasonably possible losses involves significant judgment, given:

- the number, variety and varying stages of the proceedings, including the fact that many are in preliminary stages,
- the existence in many such proceedings of multiple defendants, including the Firm, whose share of liability (if any) has yet to be determined,
- the numerous yet-unresolved issues in many of the proceedings, including issues regarding class certification and the scope of many of the claims, and
- the attendant uncertainty of the various potential outcomes of such proceedings, including where the Firm has made assumptions concerning future rulings by the court or other adjudicator, or about the behavior or incentives of adverse parties or regulatory authorities, and those assumptions prove to be incorrect.

In addition, the outcome of a particular proceeding may be a result which the Firm did not take into account in its estimate because the Firm had deemed the likelihood of that outcome to be remote. Accordingly, the Firm's estimate of the aggregate range of reasonably possible losses will change from time to time, and actual losses may vary significantly.

Set forth below are descriptions of the Firm's material legal proceedings.

Federal Republic of Nigeria Litigation. JPMorgan Chase Bank, N.A. operated an escrow and depository account for the Federal Government of Nigeria ("FGN") and two major international oil companies. The account held approximately $1.1 billion in connection with a dispute among the clients over rights to an oil field. Following the settlement of the dispute, JPMorgan Chase Bank, N.A. paid out the monies in the account in 2011 and 2013 in accordance with directions received from its clients. In November 2017, the Federal Republic of Nigeria ("FRN") commenced a claim in the English High Court for approximately $875 million in payments made out of the accounts. The FRN, claiming to be the same entity as the FGN, alleges that the payments were instructed as part of a complex fraud not involving JPMorgan Chase Bank, N.A., but that JPMorgan Chase Bank, N.A. was or should have been on notice that the payments may be fraudulent. JPMorgan Chase Bank, N.A. applied for summary judgment and was unsuccessful. The claim is ongoing and no trial date has been set.

Foreign Exchange Investigations and Litigation. The Firm previously reported settlements with certain government authorities relating to its foreign exchange ("FX") sales and trading activities and controls related to those activities. FX-related investigations and inquiries by government authorities, including competition authorities, are ongoing, and the Firm is cooperating with and working to resolve those matters. In May 2015, the Firm pleaded guilty to a single violation of federal antitrust law. In January 2017, the Firm was sentenced, with judgment entered thereafter and a term of probation ending in January 2020. The Department of Labor has granted the Firm a five-year exemption of disqualification that allows the Firm and its affiliates to continue to rely on the Qualified Professional Asset Manager exemption under the Employee Retirement Income Security Act ("ERISA") until January 2023. The Firm will need to reapply in due course for a further exemption to cover the remainder of the ten-year disqualification period. In addition, the Firm has paid fines totaling approximately $265 million in connection with the settlement of FX-related investigations conducted by the European Commission and the Swiss Competition Commission which were announced in May 2019 and June 2019, respectively. Separately, in February 2017 the South Africa Competition Commission referred its FX investigation of the Firm and other banks to the South Africa Competition Tribunal, which is conducting civil proceedings concerning that matter.

In August 2018, the United States District Court for the Southern District of New York granted final approval to the Firm's settlement of a consolidated class action brought by U.S.-based plaintiffs, which principally alleged violations of

federal antitrust laws based on an alleged conspiracy to manipulate foreign exchange rates and also sought damages on behalf of persons who transacted in FX futures and options on futures. Certain members of the settlement class filed requests to the Court to be excluded from the class, and certain of them filed a complaint against the Firm and a number of other foreign exchange dealers in November 2018 (the "opt-out action"). The two FX-related actions brought by participants or beneficiaries of qualified ERISA plans have been dismissed. Putative class actions on behalf of consumers who purchased foreign currencies at allegedly inflated rates (the "consumer action") and purported indirect purchasers of FX instruments (the "indirect purchaser action") remain pending in the District Court. In addition, some FX related individual and putative class actions have been filed outside the U.S., including in the U.K., Israel and Australia, which are based on similar alleged underlying conduct.

Interchange Litigation. A group of merchants and retail associations filed a series of class action complaints alleging that Visa and Mastercard, as well as certain banks, conspired to set the price of credit and debit card interchange fees and enacted respective rules in violation of antitrust laws. The parties settled the cases for a cash payment, a temporary reduction of credit card interchange, and modifications to certain credit card network rules. In December 2013, the District Court granted final approval of the settlement.

A number of merchants appealed the settlement to the United States Court of Appeals for the Second Circuit, which, in June 2016, vacated the District Court's certification of the class action and reversed the approval of the class settlement. In March 2017, the U.S. Supreme Court declined petitions seeking review of the decision of the Court of Appeals. The case was remanded to the District Court for further proceedings consistent with the appellate decision. The original class action was divided into two separate actions, one seeking primarily monetary relief and the other seeking primarily injunctive relief. In September 2018, the parties to the class action seeking monetary relief finalized an agreement which amends and supersedes the prior settlement agreement, and the plaintiffs filed a motion seeking preliminary approval of the modified settlement. Pursuant to this settlement, the defendants have collectively contributed an additional $900 million to the approximately $5.3 billion previously held in escrow from the original settlement. In January 2019, the amended agreement was preliminarily approved by the District Court, and formal notice of the class settlement has been completed in accordance with the District Court's order. A fairness hearing is scheduled before the District Court in November 2019. The class action seeking primarily injunctive relief continues separately.

In addition, certain merchants have filed individual actions raising similar allegations against Visa and Mastercard, as well as against the Firm and other banks, and those actions are proceeding.

LIBOR and Other Benchmark Rate Investigations and Litigation. JPMorgan Chase has received subpoenas and requests for documents and, in some cases, interviews, from federal and state agencies and entities, including the U.S. Commodity Futures Trading Commission and various state attorneys general, as well as the European Commission ("EC"), the Swiss Competition Commission ("ComCo") and other regulatory authorities and banking associations around the world relating primarily to the process by which interest rates were submitted to the British Bankers Association ("BBA") in connection with the setting of the BBA's London Interbank Offered Rate ("LIBOR") for various currencies, principally in 2007 and 2008. Some of the inquiries also relate to similar processes by which information on rates was submitted to the European Banking Federation ("EBF") in connection with the setting of the EBF's Euro Interbank Offered Rate ("EURIBOR"). The Firm continues to cooperate with these investigations to the extent that they are ongoing. ComCo's investigation relating to EURIBOR, to which the Firm and other banks are subject, continues. In December 2016, the EC issued a decision against the Firm and other banks finding an infringement of European antitrust rules relating to EURIBOR. The Firm has filed an appeal of that decision with the European General Court, and that appeal is pending.

In addition, the Firm has been named as a defendant along with other banks in a series of individual and putative class actions related to benchmarks, including U.S. dollar LIBOR during the period that it was administered by the BBA and, in a separate consolidated putative class action, during the period that it was administered by ICE Benchmark Administration. These actions have been filed, or consolidated for pre-trial purposes, in the United States District Court for the Southern District of New York. In these actions, plaintiffs make varying allegations that in various periods, starting in 2000 or later, defendants either individually or collectively manipulated various benchmark rates by submitting rates that were artificially low or high. Plaintiffs allege that they transacted in loans, derivatives or other financial instruments whose values are affected by changes in these rates and assert a variety of claims including antitrust claims seeking treble damages. These actions are in various stages of litigation.

In actions related to U.S. dollar LIBOR during the period that it was administered by the BBA, the District Court dismissed certain claims, including antitrust claims brought by some plaintiffs whom the District Court found did not have standing to assert such claims, and permitted certain claims to proceed, including antitrust, Commodity Exchange Act, Section 10(b) of the Securities Exchange Act and common law claims. The plaintiffs whose antitrust claims were dismissed for lack of standing have filed an appeal. The District Court granted class certification of antitrust claims related to bonds and interest rate swaps sold directly by the defendants and denied class certification motions filed by other plaintiffs. The Firm has agreed to settle putative class

actions related to Swiss franc LIBOR, the Singapore Interbank Offered Rate, the Singapore Swap Offer Rate and the Australian Bank Bill Swap Reference Rate, as well as certain of the putative class actions related to U.S. dollar LIBOR. The District Court declined to grant preliminary approval to the settlement involving the Singapore Interbank Offered Rate and the Singapore Swap Offer Rate and instead dismissed the litigation after concluding that the plaintiff lacked standing. Plaintiff's appeal of the District Court's decision is pending. The remaining settlements are all subject to further documentation and court approval.

Metals Investigations and Litigation. Various authorities, including the Department of Justice's Criminal Division, are conducting investigations relating to trading practices in the metals markets and related conduct. The Firm is responding to and cooperating with these investigations. Several putative class action complaints have been filed in the United States District Court for the Southern District of New York against the Firm and certain former employees, alleging a precious metals futures and options price manipulation scheme in violation of the Commodity Exchange Act. Some of the complaints also allege unjust enrichment and deceptive acts or practices under the General Business Law of the State of New York. The Court consolidated these putative class actions in February 2019. The Firm is also a defendant in a consolidated action filed in the United States District Court for the Southern District of New York alleging monopolization of silver futures in violation of the Sherman Act.

Wendel. Since 2012, the French criminal authorities have been investigating a series of transactions entered into by senior managers of Wendel Investissement ("Wendel") during the period from 2004 through 2007 to restructure their shareholdings in Wendel. JPMorgan Chase Bank, N.A., Paris branch provided financing for the transactions to a number of managers of Wendel in 2007. JPMorgan Chase has cooperated with the investigation. The investigating judges issued an *ordonnance de renvoi* in November 2016, referring JPMorgan Chase Bank, N.A. to the French *tribunal correctionnel* for alleged complicity in tax fraud. No date for trial has been set by the court. In January 2018, the Paris Court of Appeal issued a decision cancelling the *mise en examen* of JPMorgan Chase Bank, N.A. In September 2018, the Court of Cassation, France's highest court, ruled that a *mise en examen* is a prerequisite for an *ordonnance de renvoi* and remanded the case to the Court of Appeal. In June 2019, the Court of Appeal declined to annul the *ordonnance de renvoi* referring JPMorgan Chase Bank, N.A. to the French *tribunal correctionnel*, and the Firm has reapplied to the Court of Cassation for a determination as to whether the Court of Appeal's decision is consistent with the Court of Cassation's September 2018 ruling. Any further actions in the criminal proceedings are stayed pending the outcome of that application. In addition, a number of the managers have commenced civil proceedings against JPMorgan Chase Bank, N.A. The claims are separate, involve different allegations and are at various stages of proceedings.

* * *

In addition to the various legal proceedings discussed above, JPMorgan Chase and its subsidiaries are named as defendants or are otherwise involved in a substantial number of other legal proceedings. The Firm believes it has meritorious defenses to the claims asserted against it in its currently outstanding legal proceedings and it intends to defend itself vigorously. Additional legal proceedings may be initiated from time to time in the future.

The Firm has established reserves for several hundred of its currently outstanding legal proceedings. In accordance with the provisions of U.S. GAAP for contingencies, the Firm accrues for a litigation-related liability when it is probable that such a liability has been incurred and the amount of the loss can be reasonably estimated. The Firm evaluates its outstanding legal proceedings each quarter to assess its litigation reserves, and makes adjustments in such reserves, upwards or downward, as appropriate, based on management's best judgment after consultation with counsel. The Firm's legal expense/(benefit) was $10 million and $20 million for the three months ended September 30, 2019 and 2018, respectively, and $(2) million and $90 million for the nine months ended September 30, 2019 and 2018, respectively. There is no assurance that the Firm's litigation reserves will not need to be adjusted in the future.

In view of the inherent difficulty of predicting the outcome of legal proceedings, particularly where the claimants seek very large or indeterminate damages, or where the matters present novel legal theories, involve a large number of parties or are in early stages of discovery, the Firm cannot state with confidence what will be the eventual outcomes of the currently pending matters, the timing of their ultimate resolution or the eventual losses, fines, penalties or consequences related to those matters. JPMorgan Chase believes, based upon its current knowledge and after consultation with counsel, consideration of the material legal proceedings described above and after taking into account its current litigation reserves and its estimated aggregate range of possible losses, that the other legal proceedings currently pending against it should not have a material adverse effect on the Firm's consolidated financial condition. The Firm notes, however, that in light of the uncertainties involved in such proceedings, there is no assurance that the ultimate resolution of these matters will not significantly exceed the reserves it has currently accrued or that a matter will not have material reputational consequences. As a result, the outcome of a particular matter may be material to JPMorgan Chase's operating results for a particular period, depending on, among other factors, the size of the loss or liability imposed and the level of JPMorgan Chase's income for that period.

Note 25 – Business segments

The Firm is managed on a line of business basis. There are four major reportable business segments - Consumer & Community Banking, Corporate & Investment Bank, Commercial Banking and Asset & Wealth Management. In addition, there is a Corporate segment. The business segments are determined based on the products and services provided, or the type of customer served, and they reflect the manner in which financial information is currently evaluated by the Firm's Operating Committee. Segment results are presented on a managed basis. Refer to Segment results below, and Note 31 of JPMorgan Chase's 2018 Form 10-K for a further discussion concerning JPMorgan Chase's business segments.

Segment results

The following tables provide a summary of the Firm's segment results as of or for the three and nine months ended September 30, 2019 and 2018, on a managed basis. The Firm's definition of managed basis starts with the reported U.S. GAAP results and includes certain reclassifications to present total net revenue for the Firm (and each of the reportable business segments) on an FTE basis. Accordingly, revenue from investments that receive tax credits and tax-exempt securities is presented in the managed results on a basis comparable to taxable investments and securities. Refer to Note 31 of JPMorgan Chase's 2018 Form 10-K for additional information on the Firm's managed basis.

Business segment capital allocation

The amount of capital assigned to each business is referred to as equity. On at least an annual basis, the assumptions and methodologies used in capital allocation are assessed and as a result, the capital allocated to lines of business may change. Refer to Line of business equity on page 91 of JPMorgan Chase's 2018 Form 10-K for additional information on business segment capital allocation.

Segment results and reconciliation[a]

As of or for the three months ended September 30, (in millions, except ratios)	Consumer & Community Banking		Corporate & Investment Bank		Commercial Banking		Asset & Wealth Management	
	2019	2018	**2019**	2018	**2019**	2018	**2019**	2018
Noninterest revenue	**$ 5,095**	$ 4,176	**$ 7,182**	$ 6,505	**$ 599**	$ 576	**$ 2,713**	$ 2,680
Net interest income	**9,164**	9,114	**2,156**	2,300	**1,608**	1,695	**855**	879
Total net revenue	**14,259**	13,290	**9,338**	8,805	**2,207**	2,271	**3,568**	3,559
Provision for credit losses	**1,311**	980	**92**	(42)	**67**	(15)	**44**	23
Noninterest expense	**7,290**	6,982	**5,348**	5,175	**881**	853	**2,622**	2,585
Income before income tax expense	**5,658**	5,328	**3,898**	3,672	**1,259**	1,433	**902**	951
Income tax expense	**1,385**	1,242	**1,089**	1,046	**322**	344	**234**	227
Net income	**$ 4,273**	$ 4,086	**$ 2,809**	$ 2,626	**$ 937**	$ 1,089	**$ 668**	$ 724
Average equity	**$ 52,000**	$ 51,000	**$ 80,000**	$ 70,000	**$ 22,000**	$ 20,000	**$ 10,500**	$ 9,000
Total assets	**532,487**	560,432	**1,023,132**	928,148	**222,483**	217,194	**174,226**	166,716
ROE	**32%**	31%	**13%**	14%	**16%**	21%	**24%**	31%
Overhead ratio	**51**	53	**57**	59	**40**	38	**73**	73

As of or for the three months ended September 30, (in millions, except ratios)	Corporate		Reconciling Items[a]		Total	
	2019	2018	**2019**	2018	**2019**	2018
Noninterest revenue	**$ 120**	$ (177)	**$ (596)**	$ (408)	**$ 15,113**	$ 13,352
Net interest income	**572**	74	**(127)**	(154)	**14,228**	13,908
Total net revenue	**692**	(103)	**(723)**	(562)	**29,341**	27,260
Provision for credit losses	**—**	2	**—**	—	**1,514**	948
Noninterest expense	**281**	28	**—**	—	**16,422**	15,623
Income/(loss) before income tax expense/(benefit)	**411**	(133)	**(723)**	(562)	**11,405**	10,689
Income tax expense/(benefit)	**18**	12	**(723)**	(562)	**2,325**	2,309
Net income/(loss)	**$ 393**	$ (145)	**$ —**	$ —	**$ 9,080**	$ 8,380
Average equity	**$ 71,113**	$ 80,439	**$ —**	$ —	**$ 235,613**	$ 230,439
Total assets	**812,333**	742,693	**NA**	NA	**2,764,661**	2,615,183
ROE	**NM**	NM	**NM**	NM	**15%**	14%
Overhead ratio	**NM**	NM	**NM**	NM	**56**	57

(a) Segment managed results reflect revenue on an FTE basis with the corresponding income tax impact recorded within income tax expense/(benefit). These adjustments are eliminated in reconciling items to arrive at the Firm's reported U.S. GAAP results.

Segment results and reconciliation[a]

As of or for the nine months ended September 30, (in millions, except ratios)	Consumer & Community Banking		Corporate & Investment Bank		Commercial Banking		Asset & Wealth Management	
	2019	2018	**2019**	2018	**2019**	2018	**2019**	2018
Noninterest revenue	**$ 13,868**	$ 12,063	**$ 22,328**	$ 21,954	**$ 1,806**	$ 1,758	**$ 7,989**	$ 7,997
Net interest income	**27,975**	26,321	**6,499**	7,257	**4,950**	4,995	**2,627**	2,640
Total net revenue	**41,843**	38,384	**28,827**	29,211	**6,756**	6,753	**10,616**	10,637
Provision for credit losses	**3,745**	3,405	**179**	(142)	**186**	23	**48**	40
Noninterest expense	**21,663**	20,770	**16,288**	16,237	**2,618**	2,541	**7,865**	7,732
Income before income tax expense	**16,435**	14,209	**12,360**	13,116	**3,952**	4,189	**2,703**	2,865
Income tax expense	**4,025**	3,385	**3,365**	3,318	**966**	988	**655**	616
Net income	**$ 12,410**	$ 10,824	**$ 8,995**	$ 9,798	**$ 2,986**	$ 3,201	**$ 2,048**	$ 2,249
Average equity	**$ 52,000**	$ 51,000	**$ 80,000**	$ 70,000	**$ 22,000**	$ 20,000	**$ 10,500**	$ 9,000
Total assets	**532,487**	560,432	**1,023,132**	928,148	**222,483**	217,194	**174,226**	166,716
Return on equity	**31%**	27%	**14%**	18%	**17%**	20%	**25%**	32%
Overhead ratio	**52**	54	**57**	56	**39**	38	**74**	73

As of or for the nine months ended September 30, (in millions, except ratios)	Corporate		Reconciling Items[a]		Total	
	2019	2018	**2019**	2018	**2019**	2018
Noninterest revenue	**$ 3**	$ (220)	**$ (1,777)**	$ (1,337)	**$ 44,217**	$ 42,215
Net interest income	**1,436**	(35)	**(408)**	(473)	**43,079**	40,705
Total net revenue	**1,439**	(255)	**(2,185)**	(1,810)	**87,296**	82,920
Provision for credit losses	**—**	(3)	**—**	—	**4,158**	3,323
Noninterest expense	**724**	394	**—**	—	**49,158**	47,674
Income/(loss) before income tax expense/(benefit)	**715**	(646)	**(2,185)**	(1,810)	**33,980**	31,923
Income tax expense/(benefit)	**(757)**	18	**(2,185)**	(1,810)	**6,069**	6,515
Net income/(loss)	**$ 1,472**	$ (664)	**$ —**	$ —	**$ 27,911**	$ 25,408
Average equity	**$ 68,417**	$ 78,995	**$ —**	$ —	**$ 232,917**	$ 228,995
Total assets	**812,333**	742,693	**NA**	NA	**2,764,661**	2,615,183
Return on equity	**NM**	NM	**NM**	NM	**15%**	14%
Overhead ratio	**NM**	NM	**NM**	NM	**56**	57

(a) Segment managed results reflect revenue on an FTE basis with the corresponding income tax impact recorded within income tax expense/(benefit). These adjustments are eliminated in reconciling items to arrive at the Firm's reported U.S. GAAP results.

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of JPMorgan Chase & Co.:

Results of Review of Interim Financial Statements
We have reviewed the accompanying consolidated balance sheet of JPMorgan Chase & Co. and its subsidiaries (the "Firm") as of September 30, 2019, and the related consolidated statements of income, comprehensive income, and changes in stockholders' equity for the three-month and nine-month periods ended September 30, 2019 and 2018 and the consolidated statements of cash flows for the nine-month periods ended September 30, 2019 and 2018, including the related notes (collectively referred to as the "interim financial statements"). Based on our reviews, we are not aware of any material modifications that should be made to the accompanying interim financial statements for them to be in conformity with accounting principles generally accepted in the United States of America.

We have previously audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated balance sheet of the Firm as of December 31, 2018, and the related consolidated statements of income, comprehensive income, changes in stockholders' equity and of cash flows for the year then ended (not presented herein), and in our report dated February 26, 2019, we expressed an unqualified opinion on those consolidated financial statements. In our opinion, the information set forth in the accompanying consolidated balance sheet information as of December 31, 2018, is fairly stated, in all material respects, in relation to the consolidated balance sheet from which it has been derived.

Basis for Review Results
These interim financial statements are the responsibility of the Firm's management. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) ("PCAOB") and are required to be independent with respect to the Firm in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB. We conducted our review in accordance with the standards of the PCAOB. A review of interim financial information consists principally of applying analytical procedures and making inquiries of persons responsible for financial and accounting matters. It is substantially less in scope than an audit conducted in accordance with the standards of the PCAOB, the objective of which is the expression of an opinion regarding the financial statements taken as a whole. Accordingly, we do not express such an opinion.

PricewaterhouseCoopers LLP

November 4, 2019

PricewaterhouseCoopers LLP, 300 Madison Avenue, New York, NY 10017

JPMorgan Chase & Co.
Consolidated average balance sheets, interest and rates (unaudited)
(Taxable-equivalent interest and rates; in millions, except rates)

	Three months ended September 30, 2019			Three months ended September 30, 2018		
	Average balance	Interest[g]	Rate (annualized)	Average balance	Interest[g]	Rate (annualized)
Assets						
Deposits with banks	$ 267,578	$ 898	1.33%	$ 408,595	$ 1,585	1.54%
Federal funds sold and securities purchased under resale agreements	276,721	1,542	2.21	208,439	952	1.81
Securities borrowed[a]	139,939	434	1.23	117,057	248	0.84
Trading assets – debt instruments[a]	339,198	2,671	3.12	241,074	2,170	3.57
Taxable securities	308,619	2,132	2.74	187,942	1,402	2.96
Nontaxable securities[b]	34,515	396	4.55	42,045	490	4.62
Total investment securities	343,134	2,528	2.92 [h]	229,987	1,892	3.26 [h]
Loans	947,280	12,623	5.29	951,724	12,250	5.11
All other interest-earning assets[a][c]	51,304	552	4.27	46,429	496	4.23
Total interest-earning assets[a]	2,365,154	21,248	3.56	2,203,305	19,593	3.53
Allowance for loan losses	(13,142)			(13,207)		
Cash and due from banks	20,375			21,101		
Trading assets – equity and other instruments[a]	113,980			119,915		
Trading assets – derivative receivables	57,062			62,075		
Goodwill, MSRs and other intangible assets	53,125			54,652		
All other noninterest-earning assets	168,498			151,780		
Total assets	$ 2,765,052			$ 2,599,621		
Liabilities						
Interest-bearing deposits[a]	$ 1,123,452	$ 2,409	0.85%	$ 1,041,896	$ 1,621	0.62%
Federal funds purchased and securities loaned or sold under repurchase agreements	239,698	1,241	2.05	184,377	827	1.78
Short-term borrowings[a][d]	44,814	261	2.31	52,779	288	2.17
Trading liabilities – debt and all other interest-bearing liabilities[a][e][f]	183,369	660	1.43	176,795	617	1.39
Beneficial interests issued by consolidated VIEs	21,123	134	2.53	19,921	122	2.41
Long-term debt[a]	248,985	2,188	3.49	241,878	2,056	3.37
Total interest-bearing liabilities[a]	1,861,441	6,893	1.47	1,717,646	5,531	1.28
Noninterest-bearing deposits[a]	407,428			410,966		
Trading liabilities – equity and other instruments[a][f]	31,310			36,605		
Trading liabilities – derivative payables	45,987			44,810		
All other liabilities, including the allowance for lending-related commitments[a]	155,032			132,903		
Total liabilities	2,501,198			2,342,930		
Stockholders' equity						
Preferred stock	28,241			26,252		
Common stockholders' equity	235,613			230,439		
Total stockholders' equity	263,854			256,691		
Total liabilities and stockholders' equity	$ 2,765,052			$ 2,599,621		
Interest rate spread[a]			2.09%			2.25%
Net interest income and net yield on interest-earning assets[a]		$ 14,355	2.41		$ 14,062	2.53

(a) In the second quarter of 2019, the Firm implemented certain presentation changes that impacted interest income and interest expense, but had no effect on net interest income. These changes were made to align the accounting treatment between the balance sheet and the related interest income or expense, primarily by offsetting interest income and expense for certain prime brokerage-related held-for-investment customer receivables and payables that are currently presented as a single margin account on the balance sheet. In addition, the Firm reclassified balances related to certain instruments and structured notes from interest-earning/bearing to noninterest-earning/bearing assets and liabilities as the associated returns are recorded in principal transactions revenue and not in net interest income. These changes were applied retrospectively and, accordingly, prior period amounts were revised to conform with the current presentation.
(b) Represents securities which are tax-exempt for U.S. federal income tax purposes.
(c) Includes prime brokerage-related held-for-investment customer receivables, which are classified in accrued interest and accounts receivable, and all other interest-earning assets, which are classified in other assets on the Consolidated Balance Sheets.
(d) Includes commercial paper.
(e) Other interest-bearing liabilities include prime brokerage-related customer payables.
(f) The combined balance of trading liabilities – debt and equity instruments were $102.3 billion and $106.4 billion for the three months ended September 30, 2019 and 2018, respectively.
(g) Interest includes the effect of certain related hedging derivatives. Taxable-equivalent amounts are used where applicable.
(h) The annualized rate for securities based on amortized cost was 2.97% and 3.29% for the three months ended September 30, 2019 and 2018, respectively, and does not give effect to changes in fair value that are reflected in AOCI.

JPMorgan Chase & Co.
Consolidated average balance sheets, interest and rates (unaudited)
(Taxable-equivalent interest and rates; in millions, except rates)

	Nine months ended September 30, 2019			Nine months ended September 30, 2018		
	Average balance	Interest[g]	Rate (annualized)	Average balance	Interest[g]	Rate (annualized)
Assets						
Deposits with banks	$ 282,483	$ 3,200	1.51%	$ 419,392	$ 4,449	1.42%
Federal funds sold and securities purchased under resale agreements	284,616	4,865	2.29	203,969	2,490	1.63
Securities borrowed[a]	129,915	1,298	1.34	113,112	549	0.65
Trading assets – debt instruments[a]	337,879	8,380	3.32	240,404	6,415	3.57
Taxable securities	258,406	5,712	2.96	190,970	4,098	2.87
Nontaxable securities[b]	36,490	1,271	4.66	42,911	1,494	4.65
Total investment securities	294,896	6,983	3.17 [h]	233,881	5,592	3.20 [h]
Loans	956,641	38,313	5.35	939,408	35,047	4.99
All other interest-earning assets[a][c]	48,193	1,482	4.11	48,743	1,430	3.92
Total interest-earning assets[a]	2,334,623	64,521	3.69	2,198,909	55,972	3.40
Allowance for loan losses	(13,366)			(13,303)		
Cash and due from banks	20,824			21,771		
Trading assets – equity and other instruments[a]	114,394			124,048		
Trading assets – derivative receivables	54,098			61,188		
Goodwill, MSRs and other intangible assets	53,853			54,656		
All other noninterest-earning assets	165,475			152,325		
Total assets	$ 2,729,901			$ 2,599,594		
Liabilities						
Interest-bearing deposits[a]	$ 1,102,751	$ 7,010	0.85%	$ 1,039,646	$ 4,021	0.52%
Federal funds purchased and securities loaned or sold under repurchase agreements	225,471	3,577	2.12	190,832	2,164	1.52
Short-term borrowings[a][d]	56,635	1,051	2.48	51,349	757	1.97
Trading liabilities – debt and all other interest-bearing liabilities[a][e][f]	186,167	2,141	1.54	176,104	1,674	1.27
Beneficial interests issued by consolidated VIEs	23,549	459	2.61	21,449	366	2.28
Long-term debt[a]	247,782	6,796	3.67	244,307	5,812	3.18
Total interest-bearing liabilities[a]	1,842,355	21,034	1.53	1,723,687	14,794	1.15
Noninterest-bearing deposits[a]	405,075			413,501		
Trading liabilities – equity and other instruments[a][f]	32,059			33,607		
Trading liabilities – derivative payables	41,952			42,919		
All other liabilities, including the allowance for lending-related commitments[a]	148,086			130,755		
Total liabilities	2,469,527			2,344,469		
Stockholders' equity						
Preferred stock	27,457			26,130		
Common stockholders' equity	232,917			228,995		
Total stockholders' equity	260,374			255,125		
Total liabilities and stockholders' equity	$ 2,729,901			$ 2,599,594		
Interest rate spread[a]			2.16%			2.25%
Net interest income and net yield on interest-earning assets[a]		$ 43,487	2.49		$ 41,178	2.50

(a) In the second quarter of 2019, the Firm implemented certain presentation changes that impacted interest income and interest expense, but had no effect on net interest income. These changes were made to align the accounting treatment between the balance sheet and the related interest income or expense, primarily by offsetting interest income and expense for certain prime brokerage-related held-for-investment customer receivables and payables that are currently presented as a single margin account on the balance sheet. In addition, the Firm reclassified balances related to certain instruments and structured notes from interest-earning/bearing to noninterest-earning/bearing assets and liabilities as the associated returns are recorded in principal transactions revenue and not in net interest income. These changes were applied retrospectively and, accordingly, prior period amounts were revised to conform with the current presentation.
(b) Represents securities which are tax-exempt for U.S. federal income tax purposes.
(c) Includes prime brokerage-related held-for-investment customer receivables, which are classified in accrued interest and accounts receivable, and all other interest-earning assets, which are classified in other assets on the Consolidated Balance Sheets.
(d) Includes commercial paper.
(e) Other interest-bearing liabilities include prime brokerage-related customer payables.
(f) The combined balance of trading liabilities – debt and equity instruments were $106.8 billion and $105.1 billion for the nine months ended September 30, 2019 and 2018, respectively.
(g) Interest includes the effect of certain related hedging derivatives. Taxable-equivalent amounts are used where applicable.
(h) The annualized rate for securities based on amortized cost was 3.20% and 3.23% for the nine months ended September 30, 2019 and 2018, respectively, and does not give effect to changes in fair value that are reflected in AOCI.

2018 Form 10-K: Annual report on Form 10-K for year ended December 31, 2018, filed with the U.S. Securities and Exchange Commission.

ABS: Asset-backed securities

Active foreclosures: Loans referred to foreclosure where formal foreclosure proceedings are ongoing. Includes both judicial and non-judicial states.

AFS: Available-for-sale

Allowance for loan losses to total retained loans: represents period-end allowance for loan losses divided by retained loans.

AOCI: Accumulated other comprehensive income/(loss)

ARM(s): Adjustable rate mortgage(s)

AWM: Asset & Wealth Management

Beneficial interests issued by consolidated VIEs: represents the interest of third-party holders of debt, equity securities, or other obligations, issued by VIEs that JPMorgan Chase consolidates.

Benefit obligation: refers to the projected benefit obligation for pension plans and the accumulated postretirement benefit obligation for OPEB plans.

BHC: Bank holding company

CB: Commercial Banking

CBB: Consumer & Business Banking

CCAR: Comprehensive Capital Analysis and Review

CCB: Consumer & Community Banking

CDS: Credit default swaps

CEO: Chief Executive Officer

CET1 Capital: Common equity Tier 1 Capital

CFTC: Commodity Futures Trading Commission

CFO: Chief Financial Officer

Chase Bank USA, N.A.: Chase Bank USA, National Association

CIB: Corporate & Investment Bank

CIO: Chief Investment Office

Client deposits and other third-party liabilities: Deposits, as well as deposits that are swept to on-balance sheet liabilities (e.g., commercial paper, federal funds purchased and securities loaned or sold under repurchase agreements) as part of client cash management programs.

CLTV: Combined loan-to-value

Collateral-dependent: A loan is considered to be collateral-dependent when repayment of the loan is expected to be provided solely by the underlying collateral, rather than by cash flows from the borrower's operations, income or other resources.

Commercial Card: provides a wide range of payment services to corporate and public sector clients worldwide through the commercial card products. Services include procurement, corporate travel and entertainment, expense management services, and business-to-business payment solutions.

Core loans: represents loans central to the Firm's ongoing businesses; core loans excludes loans classified as trading assets, runoff portfolios, discontinued portfolios and portfolios the Firm has an intent to exit.

Credit derivatives: Financial instruments whose value is derived from the credit risk associated with the debt of a third-party issuer (the reference entity) which allow one party (the protection purchaser) to transfer that risk to another party (the protection seller). Upon the occurrence of a credit event by the reference entity, which may include, among other events, the bankruptcy or failure to pay its obligations, or certain restructurings of the debt of the reference entity, neither party has recourse to the reference entity. The protection purchaser has recourse to the protection seller for the difference between the face value of the CDS contract and the fair value at the time of settling the credit derivative contract. The determination as to whether a credit event has occurred is generally made by the relevant International Swaps and Derivatives Association ("ISDA") Determinations Committee.

Criticized: Criticized loans, lending-related commitments and derivative receivables that are classified as special mention, substandard and doubtful categories for regulatory purposes and are generally consistent with a rating of CCC+/Caa1 and below, as defined by S&P and Moody's.

CRO: Chief Risk Officer

CVA: Credit valuation adjustment

DVA: Debit valuation adjustment

EC: European Commission

Eligible LTD: Long-term debt satisfying certain eligibility criteria

Embedded derivatives: are implicit or explicit terms or features of a financial instrument that affect some or all of the cash flows or the value of the instrument in a manner similar to a derivative. An instrument containing such terms or features is referred to as a "hybrid." The component of the hybrid that is the non-derivative instrument is referred to as the "host." For example, callable debt is a hybrid instrument that contains a plain vanilla debt instrument (i.e., the host) and an embedded option that allows the issuer to redeem the debt issue at a specified date for a specified amount (i.e., the embedded derivative). However, a floating rate instrument is not a hybrid composed of a fixed-rate instrument and an interest rate swap.

ERISA: Employee Retirement Income Security Act of 1974

EPS: Earnings per share

Exchange-traded derivatives: Derivative contracts that are executed on an exchange and settled via a central clearing house.

Fannie Mae: Federal National Mortgage Association

FASB: Financial Accounting Standards Board

FCA: Financial Conduct Authority

FDIC: Federal Deposit Insurance Corporation

Federal Reserve: The Board of the Governors of the Federal Reserve System

FFIEC: Federal Financial Institutions Examination Council

FHA: Federal Housing Administration

FHLB: Federal Home Loan Bank

FICO score: A measure of consumer credit risk based on information in consumer credit reports produced by Fair Isaac Corporation. Because certain aged data is excluded from credit reports based on rules in the Fair Credit Reporting Act, FICO scores may not reflect all historical information about a consumer.

Firm: JPMorgan Chase & Co.

Forward points: represents the interest rate differential between two currencies, which is either added to or subtracted from the current exchange rate (i.e., "spot rate") to determine the forward exchange rate.

Freddie Mac: Federal Home Loan Mortgage Corporation

Free-standing derivatives: is a derivative contract entered into either separate and apart from any of the Firm's other financial instruments or equity transactions. Or, in conjunction with some other transaction and is legally detachable and separately exercisable.

FTE: Fully taxable-equivalent

FVA: Funding valuation adjustment

FX: Foreign exchange

G7: "Group of Seven nations": Countries in the G7 are Canada, France, Germany, Italy, Japan, the U.K. and the U.S.

G7 government securities: Securities issued by the government of one of the G7 nations.

Ginnie Mae: Government National Mortgage Association

GSIB: Global systemically important banks

HELOAN: Home equity loan

HELOC: Home equity line of credit

Home equity – senior lien: represents loans and commitments where JPMorgan Chase holds the first security interest on the property.

Home equity – junior lien: represents loans and commitments where JPMorgan Chase holds a security interest that is subordinate in rank to other liens.

HQLA: High-quality liquid assets

HTM: Held-to-maturity

IDI: Insured depository institutions

IHC: JPMorgan Chase Holdings LLC, an intermediate holding company

Impaired loan: Impaired loans are loans measured at amortized cost, for which it is probable that the Firm will be unable to collect all amounts due, including principal and interest, according to the contractual terms of the agreement. Impaired loans include the following:

- All wholesale nonaccrual loans
- All TDRs (both wholesale and consumer), including ones that have returned to accrual status

IPO: Initial public offering

Investment-grade: An indication of credit quality based on JPMorgan Chase's internal risk assessment system. "Investment grade" generally represents a risk profile similar to a rating of a "BBB-"/"Baa3" or better, as defined by independent rating agencies.

IR: Interest rate

ISDA: International Swaps and Derivatives Association

JPMorgan Chase: JPMorgan Chase & Co.

JPMorgan Chase Bank, N.A.: JPMorgan Chase Bank, National Association

J.P. Morgan Securities: J.P. Morgan Securities LLC

LCR: Liquidity coverage ratio

LGD: Loss given default

LIBOR: London Interbank Offered Rate

LLC: Limited Liability Company

LOB: Line of business

Loss emergence period: represents the time period between the date at which the loss is estimated to have been incurred and the ultimate realization of that loss.

LTV: "Loan-to-value ratio": For residential real estate loans, the relationship, expressed as a percentage, between the principal amount of a loan and the appraised value of the collateral (i.e., residential real estate) securing the loan.

Origination date LTV ratio

The LTV ratio at the origination date of the loan. Origination date LTV ratios are calculated based on the actual appraised values of collateral (i.e., loan-level data) at the origination date.

Current estimated LTV ratio

An estimate of the LTV as of a certain date. The current estimated LTV ratios are calculated using estimated collateral values derived from a nationally recognized home price index measured at the metropolitan statistical area ("MSA") level. These MSA-level home price indices consist of actual data to the extent available and forecasted data where actual data is not available. As a result, the estimated collateral values used to calculate these ratios do not represent actual appraised loan-level collateral values; as such, the resulting LTV ratios are necessarily imprecise and should therefore be viewed as estimates.

Combined LTV ratio

The LTV ratio considering all available lien positions, as well as unused lines, related to the property. Combined LTV ratios are used for junior lien home equity products.

Managed basis: A non-GAAP presentation of Firmwide financial results that includes reclassifications to present revenue on a fully taxable-equivalent basis. Management also uses this financial measure at the segment level, because it believes this provides information to enable investors to understand the underlying operational performance and trends of the particular business segment

and facilitates a comparison of the business segment with the performance of competitors.

Master netting agreement: A single agreement with a counterparty that permits multiple transactions governed by that agreement to be terminated or accelerated and settled through a single payment in a single currency in the event of a default (e.g., bankruptcy, failure to make a required payment or securities transfer or deliver collateral or margin when due).

Measurement alternative: Measures equity securities without readily determinable fair values at cost less impairment (if any), plus or minus observable price changes from an identical or similar investment of the same issuer.

MBS: Mortgage-backed securities

MD&A: Management's discussion and analysis

Moody's: Moody's Investor Services

Mortgage product types:

Alt-A

Alt-A loans are generally higher in credit quality than subprime loans but have characteristics that would disqualify the borrower from a traditional prime loan. Alt-A lending characteristics may include one or more of the following: (i) limited documentation; (ii) a high CLTV ratio; (iii) loans secured by non-owner occupied properties; or (iv) a debt-to-income ratio above normal limits. A substantial proportion of the Firm's Alt-A loans are those where a borrower does not provide complete documentation of his or her assets or the amount or source of his or her income.

Option ARMs

The option ARM real estate loan product is an adjustable-rate mortgage loan that provides the borrower with the option each month to make a fully amortizing, interest-only or minimum payment. The minimum payment on an option ARM loan is based on the interest rate charged during the introductory period. This introductory rate is usually significantly below the fully indexed rate. The fully indexed rate is calculated using an index rate plus a margin. Once the introductory period ends, the contractual interest rate charged on the loan increases to the fully indexed rate and adjusts monthly to reflect movements in the index. The minimum payment is typically insufficient to cover interest accrued in the prior month, and any unpaid interest is deferred and added to the principal balance of the loan. Option ARM loans are subject to payment recast, which converts the loan to a variable-rate fully amortizing loan upon meeting specified loan balance and anniversary date triggers.

Prime

Prime mortgage loans are made to borrowers with good credit records who meet specific underwriting requirements, including prescriptive requirements related to income and overall debt levels. New prime mortgage borrowers provide full documentation and generally have reliable payment histories.

Subprime

Subprime loans are loans that, prior to mid-2008, were offered to certain customers with one or more high risk characteristics, including but not limited to: (i) unreliable or poor payment histories; (ii) a high LTV ratio of greater than 80% (without borrower-paid mortgage insurance); (iii) a high debt-to-income ratio; (iv) an occupancy type for the loan is other than the borrower's primary residence; or (v) a history of delinquencies or late payments on the loan.

MSA: Metropolitan statistical areas

MSR: Mortgage servicing rights

NA: Data is not applicable or available for the period presented.

Net Capital Rule: Rule 15c3-1 under the Securities Exchange Act of 1934.

Net charge-off/(recovery) rate: represents net charge-offs/(recoveries) (annualized) divided by average retained loans for the reporting period.

Net interchange income includes the following components:

- **Interchange income:** Fees earned by credit and debit card issuers on sales transactions.
- **Rewards costs:** The cost to the Firm for points earned by cardholders enrolled in credit card rewards programs.
- **Partner payments:** Payments to co-brand credit card partners based on the cost of loyalty program rewards earned by cardholders on credit card transactions.

Net yield on interest-earning assets: The average rate for interest-earning assets less the average rate paid for all sources of funds.

NM: Not meaningful

Nonaccrual loans: Loans for which interest income is not recognized on an accrual basis. Loans (other than credit card loans and certain consumer loans insured by U.S. government agencies) are placed on nonaccrual status when full payment of principal and interest is not expected, regardless of delinquency status, or when principal and interest has been in default for a period of 90 days or more unless the loan is both well-secured and in the process of collection. Collateral-dependent loans are typically maintained on nonaccrual status.

Nonperforming assets: Nonperforming assets include nonaccrual loans, nonperforming derivatives and certain assets acquired in loan satisfactions, predominantly real estate owned and other commercial and personal property.

OCC: Office of the Comptroller of the Currency

OCI: Other comprehensive income/(loss)

OPEB: Other postretirement employee benefit

OTC: "Over-the-counter derivatives": Derivative contracts that are negotiated, executed and settled bilaterally between two derivative counterparties, where one or both counterparties is a derivatives dealer.

OTC cleared: "Over-the-counter cleared derivatives": Derivative contracts that are negotiated and executed bilaterally, but subsequently settled via a central clearing house, such that each derivative counterparty is only exposed to the default of that clearing house.

OTTI: Other-than-temporary impairment

Overhead ratio: Noninterest expense as a percentage of total net revenue.

Parent Company: JPMorgan Chase & Co.

Participating securities: represents unvested share-based compensation awards containing nonforfeitable rights to dividends or dividend equivalents (collectively, "dividends"), which are included in the earnings per share calculation using the two-class method. JPMorgan Chase grants restricted stock and RSUs to certain employees under its share-based compensation programs, which entitle the recipients to receive nonforfeitable dividends during the vesting period on a basis equivalent to the dividends paid to holders of common stock. These unvested awards meet the definition of participating securities. Under the two-class method, all earnings (distributed and undistributed) are allocated to each class of common stock and participating securities, based on their respective rights to receive dividends.

PCI: "Purchased credit-impaired" loans represents certain loans that were acquired and deemed to be credit-impaired on the acquisition date in accordance with the guidance of the FASB. The guidance allows purchasers to aggregate credit-impaired loans acquired in the same fiscal quarter into one or more pools, provided that the loans have common risk characteristics (e.g., product type, LTV ratios, FICO scores, past due status, geographic location). A pool is then accounted for as a single asset with a single composite interest rate and an aggregate expectation of cash flows.

PD: Probability of default

PRA: Prudential Regulation Authority

Pre-provision profit/(loss): represents total net revenue less noninterest expense. The Firm believes that this financial measure is useful in assessing the ability of a lending institution to generate income in excess of its provision for credit losses.

Principal transactions revenue: Principal transactions revenue is driven by many factors, including the bid-offer spread, which is the difference between the price at which the Firm is willing to buy a financial or other instrument and the price at which the Firm is willing to sell that instrument. It also consists of realized (as a result of closing out or termination of transactions, or interim cash payments) and unrealized (as a result of changes in valuation) gains and losses on financial and other instruments (including those accounted for under the fair value option) primarily used in client-driven market-making activities and on private equity investments. In connection with its client-driven market-making activities, the Firm transacts in debt and equity instruments, derivatives and commodities (including physical commodities inventories and financial instruments that reference commodities). Principal transactions revenue also includes certain realized and unrealized gains and losses related to hedge accounting and specified risk-management activities, including: (a) certain derivatives designated in qualifying hedge accounting relationships (primarily fair value hedges of commodity and foreign exchange risk), (b) certain derivatives used for specific risk management purposes, primarily to mitigate credit risk and foreign exchange risk, and (c) other derivatives.

PSU(s): Performance share units

Receivables from customers: primarily represents prime brokerage-related held-for-investment customer receivables from brokerage customers that are collateralized through assets maintained in the clients' brokerage accounts, as such no allowance is held against these receivables. These receivables are reported within accrued interest and accounts receivable on the Firm's Consolidated balance sheets.

Regulatory VaR: Daily aggregated VaR calculated in accordance with regulatory rules.

REO: Real estate owned

Reported basis: Financial statements prepared under U.S. GAAP, which excludes the impact of taxable-equivalent adjustments.

Retained loans: Loans that are held-for-investment (i.e. excludes loans held-for-sale and loans at fair value).

Revenue wallet: Total fee revenue based on estimates of investment banking fees generated across the industry (i.e., the revenue wallet) from investment banking transactions in M&A, equity and debt underwriting, and loan syndications. Source: Dealogic, a third-party provider of investment banking competitive analysis and volume based league tables for the above noted industry products.

RHS: Rural Housing Service of the U.S. Department of Agriculture

ROE: Return on equity

ROTCE: Return on tangible common equity

ROU assets: Right-of-use assets

RSU(s): Restricted stock units

RWA: "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.

Scored portfolio: The scored portfolio predominantly includes residential real estate loans, credit card loans and certain auto and business banking loans where 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.

S&P: Standard and Poors

SAR(s): Stock appreciation rights

SEC: U.S. Securities and Exchange Commission

Seed capital: Initial JPMorgan capital invested in products,

such as mutual funds, with the intention of ensuring the fund is of sufficient size to represent a viable offering to clients, enabling pricing of its shares, and allowing the manager to develop a track record. After these goals are achieved, the intent is to remove the Firm's capital from the investment.

Shelf Deals: Shelf offerings are SEC provisions that allow issuers to register for new securities without selling the entire issuance at once. Since these issuances are filed with the SEC but are not yet priced in the market, they are not included in the league tables until the actual securities are issued.

Single-name: Single reference-entities

SLR: Supplementary leverage ratio

SMBS: Stripped mortgage-backed securities

SOFR: Secured Overnight Financing Rate

SPEs: Special purpose entities

Structural interest rate risk: represents interest rate risk of the non-trading assets and liabilities of the Firm.

Structured notes: Structured notes are financial instruments whose cash flows are linked to the movement in one or more indexes, interest rates, foreign exchange rates, commodities prices, prepayment rates, or other market variables. The notes typically contain embedded (but not separable or detachable) derivatives. Contractual cash flows for principal, interest, or both can vary in amount and timing throughout the life of the note based on non-traditional indexes or non-traditional uses of traditional interest rates or indexes.

Suspended foreclosures: Loans referred to foreclosure where formal foreclosure proceedings have started but are currently on hold, which could be due to bankruptcy or loss mitigation. Includes both judicial and non-judicial states.

Taxable-equivalent basis: In presenting managed results, the total net revenue for each of the business segments and the Firm is presented on a tax-equivalent basis. Accordingly, revenue from investments that receive tax credits and tax-exempt securities is presented in the managed results on a basis comparable to taxable investments and securities; the corresponding income tax impact related to tax-exempt items is recorded within income tax expense.

TBVPS: Tangible book value per share

TCE: Tangible common equity

TDR: "Troubled debt restructuring" is deemed to occur when the Firm modifies the original terms of a loan agreement by granting a concession to a borrower that is experiencing financial difficulty.

TLAC: Total Loss Absorbing Capacity

U.K.: United Kingdom

Unaudited: Financial statements and information that have not been subjected to auditing procedures sufficient to permit an independent certified public accountant to express an opinion.

U.S.: United States of America

U.S. government agencies: U.S. government agencies include, but are not limited to, agencies such as Ginnie Mae and FHA, and do not include Fannie Mae and Freddie Mac which are U.S. government-sponsored enterprises ("U.S. GSEs"). In general, obligations of U.S. government agencies are fully and explicitly guaranteed as to the timely payment of principal and interest by the full faith and credit of the U.S. government in the event of a default.

U.S. GAAP: Accounting principles generally accepted in the United States of America.

U.S. GSE(s): "U.S. government-sponsored enterprises" are quasi-governmental, privately-held entities established or chartered by the U.S. government to serve public purposes as specified by the U.S. Congress to improve the flow of credit to specific sectors of the economy and provide certain essential services to the public. U.S. GSEs include Fannie Mae and Freddie Mac, but do not include Ginnie Mae or FHA. U.S. GSE obligations are not explicitly guaranteed as to the timely payment of principal and interest by the full faith and credit of the U.S. government.

U.S. Treasury: U.S. Department of the Treasury

VA: U.S. Department of Veterans Affairs

VaR: "Value-at-risk" is a measure of the dollar amount of potential loss from adverse market moves in an ordinary market environment.

VIEs: Variable interest entities

Warehouse loans: consist of prime mortgages originated with the intent to sell that are accounted for at fair value and classified as trading assets.

CONSUMER & COMMUNITY BANKING ("CCB")

Debit and credit card sales volume: Dollar amount of cardmember purchases, net of returns.

Deposit margin/deposit spread: represents net interest income expressed as a percentage of average deposits.

Home Lending Production and Home Lending Servicing revenue comprises the following:

Net mortgage servicing revenue: Includes operating revenue earned from servicing third-party mortgage loans which is recognized over the period in which the service is provided, changes in the fair value of MSRs, the impact of risk management activities associated with MSRs and gains and losses on securitization of excess mortgage servicing. Net mortgage servicing revenue also includes gains and losses on sales and lower of cost or fair value adjustments of certain loans insured by U.S. government agencies.

Net production revenue: Includes fees and income recognized as earned on mortgage loans originated with the intent to sell; the impact of risk management activities associated with the mortgage pipeline and warehouse loans; and changes in the fair value of any residual interests held from mortgage securitizations. Net production revenue also includes gains and losses on sales and lower of cost or fair value adjustments on mortgage loans (excluding certain loans insured by U.S. government agencies) held-for-sale and changes in fair value on mortgage loans originated with the intent to sell and measured at fair value under the fair value option.

Mortgage origination channels comprise the following:

Retail: Borrowers who buy or refinance a home through direct contact with a mortgage banker employed by the Firm using a branch office, the Internet or by phone. Borrowers are frequently referred to a mortgage banker by a banker in a Chase branch, real estate brokers, home builders or other third parties.

Correspondent: Banks, thrifts, other mortgage banks and other financial institutions that sell closed loans to the Firm.

Card Services: includes the Credit Card and Merchant Services businesses.

Credit Card: is a business that primarily issues credit cards to consumers and small businesses.

Merchant Services: is a business that primarily processes transactions for merchants.

Net revenue rate: represents Card Services net revenue (annualized) expressed as a percentage of average loans for the period.

Auto loan and lease origination volume: Dollar amount of auto loans and leases originated.

CORPORATE & INVESTMENT BANK ("CIB")

Definition of selected CIB revenue:

Investment Banking: incorporates all revenue associated with investment banking activities, and is reported net of investment banking revenue shared with other lines of business.

Treasury Services: offers a broad range of products and services that enable clients to manage payments and receipts, as well as invest and manage funds. Products include U.S. dollar and multi-currency clearing, ACH, lockbox, disbursement and reconciliation services, check deposits, and currency-related services.

Lending: includes net interest income, fees, gains or losses on loan sale activity, gains or losses on securities received as part of a loan restructuring, and the risk management results related to the credit portfolio. Lending also includes Trade Finance, which includes loans tied directly to goods crossing borders, export/import loans, commercial letters of credit, standby letters of credit, and supply chain finance.

Fixed Income Markets: primarily includes revenue related to market-making across global fixed income markets, including foreign exchange, interest rate, credit and commodities markets.

Equity Markets: primarily includes revenue related to market-making across global equity products, including cash instruments, derivatives, convertibles and prime brokerage.

Securities Services: primarily includes custody, fund accounting and administration, and securities lending products sold principally to asset managers, insurance companies and public and private investment funds. Also includes collateral management and depositary receipts businesses which provide collateral management products, and depositary bank services for American and global depositary receipt programs.

Description *of certain business metrics:*

Assets under custody ("AUC"): represents activities associated with the safekeeping and servicing of assets on which Securities Services earns fees.

Investment banking fees: represents advisory, equity underwriting, bond underwriting and loan syndication fees.

COMMERCIAL BANKING ("CB")

Commercial Banking provides comprehensive financial solutions, including lending, treasury services, investment banking and asset management products across three primary client segments: Middle Market Banking, Corporate Client Banking and Commercial Real Estate Banking. Other includes amounts not aligned with a primary client segment.

Middle Market Banking: covers small business and midsized corporations, local governments and nonprofit clients.

Corporate Client Banking: covers large corporations.

Commercial Real Estate Banking: covers investors, developers, and owners of multifamily, office, retail, industrial and affordable housing properties.

CB product revenue comprises the following:

Lending: includes a variety of financing alternatives, which are primarily provided on a secured basis; collateral includes receivables, inventory, equipment, real estate or other assets. Products include term loans, revolving lines of credit, bridge financing, asset-based structures, leases, and standby letters of credit.

Treasury services: includes revenue from a broad range of products and services that enable CB clients to manage payments and receipts, as well as invest and manage funds.

Investment banking: includes revenue from a range of products providing CB clients with sophisticated capital-raising alternatives, as well as balance sheet and risk management tools through advisory, equity underwriting, and loan syndications. Revenue from fixed income and equity market products used by CB clients is also included.

Other: product revenue primarily includes tax-equivalent adjustments generated from Community Development Banking activity and certain income derived from principal transactions.

ASSET & WEALTH MANAGEMENT ("AWM")

Assets under management ("AUM"): represent assets managed by AWM on behalf of its Private Banking, Institutional and Retail clients.

Client assets: represent assets under management, as well as custody, brokerage, administration and deposit accounts.

Multi-asset: Any fund or account that allocates assets under management to more than one asset class.

Alternative assets: The following types of assets constitute alternative investments – hedge funds, currency, real estate, private equity and other investment funds designed to focus on nontraditional strategies.

AWM's lines of business consist of the following:

Asset Management: provides comprehensive global investment services - including asset management, pension analytics, asset-liability management and active risk-budgeting strategies.

Wealth Management: offers investment advice and wealth management, including investment management, capital markets and risk management, tax and estate planning, banking, lending and specialty-wealth advisory services.

AWM's client segments consist of the following:

Private Banking: clients include high- and ultra-high-net-worth individuals, families, money managers, business owners and small corporations worldwide.

Institutional: clients include both corporate and public institutions, endowments, foundations, nonprofit organizations and governments worldwide.

Retail: clients include financial intermediaries and individual investors.

Asset Management has two high-level measures of its overall fund performance:

Percentage of mutual fund assets under management in funds rated 4- or 5-star: Mutual fund rating services rank funds based on their risk-adjusted performance over various periods. A 5-star rating is the best rating and represents the top 10% of industry-wide ranked funds.

A 4-star rating represents the next 22.5% of industry-wide ranked funds. A 3-star rating represents the next 35% of industry-wide ranked funds. A 2-star rating represents the next 22.5% of industry-wide ranked funds. A 1-star rating is the worst rating and represents the bottom 10% of industry-wide ranked funds. The "overall Morningstar rating" is derived from a weighted average of the performance associated with a fund's three-, five- and ten-year (if applicable) Morningstar Rating metrics. For U.S. domiciled funds, separate star ratings are given at the individual share class level. The Nomura "star rating" is based on three-year risk-adjusted performance only. Funds with fewer than three years of history are not rated and

hence excluded from this analysis. All ratings, the assigned peer categories and the asset values used to derive this analysis are sourced from these fund rating providers. The data providers re-denominate the asset values into U.S. dollars. This % of AUM is based on star ratings at the share class level for U.S. domiciled funds, and at a "primary share class" level to represent the star rating of all other funds except for Japan where Nomura provides ratings at the fund level. The "primary share class", as defined by Morningstar, denotes the share class recommended as being the best proxy for the portfolio and in most cases will be the most retail version (based upon annual management charge, minimum investment, currency and other factors). The performance data could have been different if all funds/ accounts would have been included. Past performance is not indicative of future results.

Percentage of mutual fund assets under management in funds ranked in the 1st or 2nd quartile (one, three, and five years): All quartile rankings, the assigned peer categories and the asset values used to derive this analysis are sourced from the fund ranking providers. Quartile rankings are done on the net-of-fee absolute return of each fund. The data providers re-denominate the asset values into U.S. dollars. This % of AUM is based on fund performance and associated peer rankings at the share class level for U.S. domiciled funds, at a "primary share class" level to represent the quartile ranking of the U.K., Luxembourg and Hong Kong funds and at the fund level for all other funds. The "primary share class", as defined by Morningstar, denotes the share class recommended as being the best proxy for the portfolio and in most cases will be the most retail version (based upon annual management charge, minimum investment, currency and other factors). Where peer group rankings given for a fund are in more than one "primary share class" territory both rankings are included to reflect local market competitiveness (applies to "Offshore Territories" and "HK SFC Authorized" funds only). The performance data could have been different if all funds/ accounts would have been included. Past performance is not indicative of future results.

Item 3. Quantitative and Qualitative Disclosures About Market Risk.

Refer to the Market Risk Management section of Management's discussion and analysis and pages 124–131 of JPMorgan Chase's 2018 Form 10-K for a discussion of the quantitative and qualitative disclosures about market risk.

Item 4. Controls and Procedures.

As of the end of the period covered by this report, an evaluation was carried out under the supervision and with the participation of the Firm's management, including its Chairman and Chief Executive Officer and its Chief Financial Officer, of the effectiveness of its disclosure controls and procedures (as defined in Rule 13a-15(e) under the Securities Exchange Act of 1934). Based on that evaluation, the Chairman and Chief Executive Officer and the Chief Financial Officer concluded that these disclosure controls and procedures were effective. Refer to Exhibits 31.1 and 31.2 for the Certification statements issued by the Chairman and Chief Executive Officer and Chief Financial Officer.

The Firm is committed to maintaining high standards of internal control over financial reporting. Nevertheless, because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. In addition, in a firm as large and complex as JPMorgan Chase, lapses or deficiencies in internal controls do occur from time to time, and there can be no assurance that any such deficiencies will not result in significant deficiencies or material weaknesses in internal controls in the future. Refer to "Management's report on internal control over financial reporting" on page 148 of JPMorgan Chase's 2018 Form 10-K for further information. There was no change in the Firm's internal control over financial reporting (as defined in Rule 13a-15(f) under the Securities Exchange Act of 1934) that occurred during the three months ended September 30, 2019, that has materially affected, or is reasonably likely to materially affect, the Firm's internal control over financial reporting.

Part II – Other Information

Item 1. Legal Proceedings.

Refer to the discussion of the Firm's material legal proceedings in Note 24 of this Form 10-Q for information that updates the disclosures set forth under Part I, Item 3: Legal Proceedings, in JPMorgan Chase's 2018 Form 10-K.

Item 1A. Risk Factors.

Refer to Part I, Item 1A: Risk Factors on pages 7–28 of JPMorgan Chase's 2018 Form 10-K and Forward-Looking Statements on page 79 of this Form 10-Q for a discussion of certain risk factors affecting the Firm.

Supervision and regulation

Refer to the Supervision and regulation section on pages 1–6 of JPMorgan Chase's 2018 Form 10-K for information on Supervision and Regulation.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds.

The Firm did not have any unregistered sale of equity securities during the three months ended September 30, 2019.

Repurchases under the common equity repurchase program

Refer to Capital Risk Management on pages 45–49 of this Form 10-Q and pages 85-94 of JPMorgan Chase's 2018 Form 10-K for information regarding repurchases under the Firm's common equity repurchase program.

Shares repurchased, on a settlement-date basis, pursuant to the common equity repurchase program during the nine months ended September 30, 2019, were as follows.

Nine months ended September 30, 2019	Total shares of common stock repurchased	Average price paid per share of common stock[(a)]	Aggregate repurchases of common equity (in millions)[(a)]	Dollar value of remaining authorized repurchase (in millions)[(a)]
First quarter	49,534,646	$ 102.78	$ 5,091	$ 5,290
Second quarter	47,434,255	109.83	5,210	80 (b)
July	16,285,176	114.39	1,863	27,537
August	29,005,310	108.78	3,155	24,382
September	16,720,914	115.53	1,931	22,451 (c)
Third quarter	62,011,400	112.07	6,949	22,451 (c)
Year-to-date	158,980,301	$ 108.51	$ 17,250	$ 22,451 (c)

(a) Excludes commissions cost.
(b) The $80 million unused portion under the prior Board authorization was canceled when the $29.4 billion repurchase program was authorized by the Board of Directors on June 27, 2019.
(c) Represents the amount remaining under the $29.4 billion repurchase program.

Item 3. Defaults Upon Senior Securities.

None.

Item 4. Mine Safety Disclosures.

Not applicable.

Item 5. Other Information.

None.

Item 6. Exhibits.

Exhibit No.	Description of Exhibit
10.1	Employee Stock Purchase Plan of JPMorgan Chase & Co., as amended and restated effective as of January 1, 2019. (a)
15	Letter re: Unaudited Interim Financial Information. (a)
31.1	Certification. (a)
31.2	Certification. (a)
32	Certification Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002. (b)
101.INS	The instance document does not appear in the interactive data file because its XBRL tags are embedded within the Inline XBRL document.(c)
101.SCH	XBRL Taxonomy Extension Schema Document.(a)
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document.(a)
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document.(a)
101.LAB	XBRL Taxonomy Extension Label Linkbase Document.(a)
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document.(a)
104	Cover Page Interactive Data File (embedded within the Inline XBRL document and included in Exhibit 101).

(a) Filed herewith.
(b) Furnished herewith. This exhibit shall not be deemed “filed” for purposes of Section 18 of the Securities Exchange Act of 1934, or otherwise subject to the liability of that Section. Such exhibit shall not be deemed incorporated into any filing under the Securities Act of 1933 or the Securities Exchange Act of 1934.
(c) Pursuant to Rule 405 of Regulation S-T, includes the following financial information included in the Firm’s Quarterly Report on Form 10-Q for the quarterly period ended September 30, 2019, formatted in XBRL (eXtensible Business Reporting Language) interactive data files: (i) the Consolidated statements of income (unaudited) for the three and nine months ended September 30, 2019 and 2018, (ii) the Consolidated statements of comprehensive income (unaudited) for the three and nine months ended September 30, 2019 and 2018, (iii) the Consolidated balance sheets (unaudited) as of September 30, 2019, and December 31, 2018, (iv) the Consolidated statements of changes in stockholders’ equity (unaudited) for the three and nine months ended September 30, 2019 and 2018, (v) the Consolidated statements of cash flows (unaudited) for the nine months ended September 30, 2019 and 2018, and (vi) the Notes to Consolidated Financial Statements (unaudited).

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

JPMorgan Chase & Co.
(Registrant)

By: /s/ Nicole Giles
Nicole Giles
Managing Director and Firmwide Controller
(Principal Accounting Officer)

Date: November 4, 2019

INDEX TO EXHIBITS

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101.LAB	XBRL Taxonomy Extension Label Linkbase Document.
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document.
104	Cover Page Interactive Data File (embedded within the Inline XBRL document and included in Exhibit 101).

† This exhibit shall not be deemed “filed” for purposes of Section 18 of the Securities Exchange Act of 1934, or otherwise subject to the liability of that Section. Such exhibit shall not be deemed incorporated into any filing under the Securities Act of 1933 or the Securities Exchange Act of 1934.

Exhibit 10.1

EMPLOYEE STOCK PURCHASE PLAN
OF JPMORGAN CHASE & CO.
AMENDED AND RESTATED EFFECTIVE AS OF JANUARY 1, 2019

1. PURPOSE

The purposes of the Employee Stock Purchase Plan of JPMorgan Chase & Co. are (i) to serve as an employment incentive and (ii) to encourage stock ownership by Eligible Employees to align their long-term financial interests with those of the Company's stockholders. The Plan is not intended to be an employee benefit plan under the Employee Retirement Income Security Act of 1974, as amended, nor qualify as an "employee stock purchase plan" under Section 423 of the Code.

2. EFFECTIVE DATE AND DURATION OF PLAN

The Plan became effective as of January 1, 2002, and was approved by stockholders on May 15, 2001. The Plan is hereby amended and restated effective as of January 1, 2019 to (i) reflect that the Plan is no longer intended to qualify as an "employee stock purchase plan" under Section 423 of the Code and (ii) revise the Plan's eligibility provisions. The Plan shall have an indefinite duration.

3. DEFINITIONS

3.1 "Offer" means an offer by the Company, the form of which has been approved by the Committee, pursuant to which Eligible Employees may purchase Common Stock under the Plan.

3.2 "Board" means the Board of Directors of the Company.

3.3 "Closing Date" means the last day of the stated term of an Offer as established by the Committee.

3.4 "Code" means the Internal Revenue Code of 1986, as amended, including any rules and regulations promulgated thereunder and any successor thereto.

3.5 "Committee" means the Compensation and Management Development Committee of the Board or such other committee of the Board, as the Board may specify.

3.6 "Common Stock" means the Common Stock of the Company.

3.7 "Company" means JPMorgan Chase & Co., a Delaware corporation.

3.8 "Compensation" means, unless the Committee determines otherwise, base salary plus any shift differential, or for Eligible Employees in certain sales positions that are paid in part or exclusively on a draw and commission basis, "Compensation" as determined by the Committee from time to time. "Compensation" does not include any incentive or other awards, bonus payments, overtime payments, or similar distributions or contributions to any employee benefit plan of the Company or any Designated Subsidiary.

3.9 "Designated Subsidiary" means, with respect to any Offer, a Subsidiary that has been designated by the Committee resulting in the Employees of such Designated Subsidiary being eligible to participate with respect to such Offer.

3.10 "Eligible Employees" means those Employees who have been designated by the Committee, in its discretion, in accordance with Section 4 as being eligible to participate in the Plan.

3.11 "Employee" means an individual who is an employee of the Company or a Designated Subsidiary as of the date or dates determined by the Committee.

3.12 "Fair Market Value" as of any given date means, for each share of Common Stock, the average of high and low sale prices of the Common Stock as reported on the New York Stock Exchange (the "NYSE") composite tape on the applicable date, or, if there are no such sale prices of Common Stock reported on the NYSE composite tape on such date, then the average price of the Common Stock on the last previous day on which high and low sale prices are reported on the NYSE composite tape; provided that notwithstanding the foregoing, the Committee can select such other method of establishing "Fair Market Value" as it deems reasonable and appropriate.

3.13 "Plan" means the Employee Stock Purchase Plan of JPMorgan Chase & Co., as amended from time to time.

3.14 "Subsidiary" means any corporation (other than the Company) in an unbroken chain of corporations including the Company provided that, on the date of an Offer hereunder, each of the corporations (other than the last corporation in the unbroken chain) owns stock possessing 50% or more of the total combined voting power of all classes of stock in one of the other corporations in such chain.

3.15 "1934 Act" means the Securities Exchange Act of 1934, as amended, including the rules and regulations promulgated thereunder and any successor thereto.

4. ADMINISTRATION

The Committee shall have full and exclusive power to administer and interpret the Plan. The Committee may determine, from time to time, that the Company shall make Offers to Eligible Employees and the form of acceptance of such Offers. The Committee's authority includes, but is not limited to the authority to, from time to time:

(a) determine whether Offers shall be made under Section 8(a) or 8(b) of the Plan or combination thereof;
(b) determine which Employees shall be Eligible Employees and which Subsidiaries shall be Designated Subsidiaries and in making such determination may exclude:

- Employees who have employed less than 2 years by the Company or a Designated Subsidiary;
- Employees whose customary employment is 20 hours or less per week;
- Employees whose customary employment is for not more than 5 months in any calendar year;
- Employees who are highly compensated employees within the meaning of Section 414(q) of the Code; and
- Employees who are employed by the Company or a Designated Subsidiary outside of the United States.
-

(c) prescribe and modify the form and provisions of the Offers and the method of delivery and acceptance;

(d) decide questions that may arise with respect to the interpretation, construction or application of the Plan or any Offer;

(e) amend, suspend or terminate the Plan, in accordance with the provisions of Section 20;

(f) adopt and amend such administrative rules, regulations, procedures and guidelines governing the Plan and the Offers as it may deem necessary in its discretion;

(g) establish all other terms, conditions, restrictions and limitations applicable to Offers, including but not limited to those relating to an Eligible Employee's retirement, death, disability, leave of absence or any other termination of employment; and

(h) establish the terms, conditions, limitations and restrictions that will apply to Eligible Employees, if any, working outside of the United States, including where necessary to comply with local laws, rules, regulations and policies.

The Committee shall have the power to correct any defect, supply any omission or clarify any inconsistency in the Plan and/or in any Offer and to take such actions and make such administrative determinations that the Committee deems appropriate in its discretion. Any decision of the Committee in the administration of the Plan, as described herein, shall be final, binding and conclusive on all parties concerned, including the Company, its stockholders, subsidiaries and all Employees.

The Committee may at any time delegate its responsibilities regarding the administration of the Plan to another committee or to one or more officers of the Company. Such delegations need not be in writing.

No member of the Committee shall be personally liable for any action or determination made with respect to the Plan, except for his or her own willful misconduct.

5. ELIGIBILITY

(a) Only Eligible Employees may be granted an Offer under the Plan.

(b) No Eligible Employee may accept an Offer (nor may an Offer be made) if such Eligible

Employee, immediately after the Offer is made, owns stock having five percent (5%) or more of the total combined voting power or value of all classes of stock of the Company or any Subsidiary. For this purpose, the rules of Section 424(d) of the Code shall apply in determining the stock ownership of an Eligible Employee. For these purposes, stock that may be purchased by an Eligible Employee under an outstanding Offer shall be treated as owned by the Eligible Employee.

6. COMMON STOCK

(a) The stock subject to purchase pursuant to Offers shall be shares of Common Stock that have been authorized but unissued, or have been previously issued and reacquired by the Company, or both. Subject to adjustment in accordance with the provisions of Section 16, the aggregate number of shares of Common Stock that may be purchased by Eligible Employees pursuant to Offers under the Plan shall not exceed 30 million shares.

(b) In the event that any Offer expires or is terminated for any reason, any shares of Common Stock that were the subject of such Offer but were not purchased may be subject to another Offer under this Plan.

7. NUMBER OF SHARES AN ELIGIBLE EMPLOYEE MAY PURCHASE

(a) The Committee may offer to Eligible Employees an option to purchase up to a certain number of shares of Common Stock as shall have an aggregate purchase price not in excess of (i) a specified percentage (not to exceed 100%) of each Eligible Employee's Compensation or (ii) an aggregate purchase price expressed in U.S. dollars, in each case, as determined by the Committee.

(b) No Eligible Employee may purchase shares of Common Stock pursuant to any Offer or Offers, including those made under any qualified employee stock purchase plan of the Company and/or its Subsidiaries, that would permit such Eligible Employee to purchase shares of Common Stock with an aggregate Fair Market Value in excess of twenty-five thousand dollars ($25,000) (determined at the date of grant designated in the Offer) for each calendar year in which any such Offer with such Eligible Employee is outstanding at any time. Any Offer which causes such total to exceed such limit shall be null and void to the extent of such excess.

8. OFFERS TO PURCHASE COMMON STOCK

Offers to purchase Common Stock may be made on terms and conditions established by the Committee, subject to the limitations set forth in either Section (a) or (b) below:

(a) Fixed Price Offerings. The purchase price for a share of Common Stock shall be no less than eighty-five percent (85%) of the Fair Market Value of a share of Common Stock on the date of the Offer, and each such Offer shall have a stated term, as established by the Committee, not to exceed twenty-seven (27) months.

(b) Variable Price Offerings. The purchase price for a share of Common Stock shall be no less than eighty-five percent (85%) of the Fair Market Value of a share of Common Stock on the date of purchase, and each Offer shall have a stated term, as established by the Committee, not to exceed five (5) years.

The foregoing shall not preclude an Offer that includes both Section (a) or (b) above, subject to the twenty-seven month limitation.

9. ELECTION TO PARTICIPATE

An Eligible Employee's acceptance of an offer to purchase shares of Common Stock shall be evidenced as specified by the Committee, including by authorizing payroll deductions.

10. PAYROLL DEDUCTIONS

(a) By authorizing payroll deductions by a date specified by the Committee, an Eligible Employee will have accepted the terms and conditions of the Offer and will have authorized the Company or the Designated Subsidiary, to deduct per pay period, as specified by the Eligible Employee, an amount not more than nor less than the minimum set forth in an Offer from his or her Compensation commencing on the date indicated in such Offer. Such amount shall be credited to a Plan account. Subject to rules and administrative guidelines as the Committee may establish from time to time, an Eligible Employee may decrease the amount of his or her payroll deductions during the Offering Period.

(b) The Committee may specify that the funds in the Eligible Employee's Plan account be credited with interest.

11. PAYMENT OF PURCHASE PRICE

Shares of Common Stock purchased under the Plan shall be paid for with the amount held in the Plan account on behalf of the Eligible Employee, including accrued interest (if any). If specified by the Committee in the Offer, an Eligible Employee may (i) provide additional funds, if necessary, to purchase the full number of shares of Common Stock specified by the Offer or (ii) use shares of Common Stock owned by the Eligible Employee for at least six (6) months to purchase the full number of shares of Common Stock specified by the Offer.

12. DATE OF PURCHASE

Each Offer shall provide that the shares of Common Stock to be purchased thereunder will be purchased on the Closing Date provided for in the Offer. If the Committee so determines, Offers also may permit the Eligible Employee to purchase shares of Common Stock thereunder at such earlier dates and on such terms and conditions as may be determined by the Committee, subject to the requirements of Section 409A of the Code.

13. EMPLOYEE'S PURCHASE DIRECTIONS

(a) On the Closing Date, each Eligible Employee will purchase shares of Common Stock, and the amount held in the Plan account on behalf of the Eligible Employee, including any accrued interest, shall be applied to the purchase price without further authorization, but only if the Fair Market Value on the Closing Date is equal to or higher than the purchase price. If the Fair Market Value on the Closing Date is lower than the purchase price, the amount held in the Plan account on behalf of the Eligible Employee, including any accrued interest, will, as the Committee may specify, be returned to such Eligible Employee or shall be retained to be used in connection with a new Offer.

(b) An Eligible Employee may purchase fewer than all of the shares covered by an Offer in the manner specified by the Committee.

14. TERMINATION OF OFFER

An Eligible Employee may, at any time on or before the Closing Date, terminate an Offer in its entirety in a manner specified by the Committee. Upon such termination, the Company shall cause the amount held on behalf of such Eligible Employee in the Plan account, including any accrued interest, to be paid to such Eligible Employee and further payroll deductions shall cease within a reasonable period thereafter.

15. TERMINATION OF EMPLOYMENT

The Committee shall determine the terms, conditions, restrictions and limitations applicable to an Offer in the event of an Eligible Employee's retirement, death, disability, leave of absence or any other termination of employment.

16. RECAPITALIZATION

The aggregate number, kind and class of shares of Common Stock that may be purchased by Eligible Employees pursuant to Offers, the number, kind and class of shares covered by each Offer, and the purchase price per share as established in accordance with each such Offer all may be equitably adjusted, as determined by the Committee, due to any changes in the Common Stock resulting from any stock split, combination or exchange of equity securities, merger, consolidation, re-

capitalization, reorganization, divestiture or other distribution (other than ordinary cash dividends) of assets to stockholders, any other subdivision or consolidation of shares or other capital adjustment, or the payment of a stock dividend or other increase or decrease in such shares.

17. ASSIGNABILITY

No Offer may be assigned or transferred except by will or by the laws of descent and distribution.

18. RIGHTS AS A STOCKHOLDER

An Eligible Employee shall have no rights as a stockholder with respect to shares of Common Stock covered by an Offer until the date the Eligible Employee becomes the holder of record of such shares. No adjustment will be made for dividends or other rights for which the record date is prior to such date of purchase.

19. COMPLIANCE WITH SECTION 409A OF THE CODE

All Offers entered into and all transactions that occur under this Plan are intended to comply with all applicable requirements of Section 409A of the Code ("Section 409A"), and, with respect to persons subject to Section 16 of the 1934 Act, with the conditions of Rule 16b-3 of the 1934 Act, and shall be construed and interpreted in accordance with such intent. To the extent an Offer is subject to Section 409A, the Offer shall be granted or exercised in a manner that will comply with Section 409A, including the final regulations and other guidance issued with respect thereto, except as otherwise determined by the Committee. Any provision of the Plan that would cause an Offer or the exercise thereof to fail to satisfy Section 409A shall be amended to comply with Section 409A on a timely basis, which amendment may be made on a retroactive basis, in accordance with the final regulations and guidance issued under Section 409A. Notwithstanding the foregoing, the Company shall have no liability to an Eligible Employee or any other party if an Offer granted under the Plan that is intended to be exempt from or compliant with Section 409A is not so exempt or compliant or for any action taken by the Committee with respect thereto.

20. AMENDMENT AND TERMINATION

The Committee may from time to time amend, suspend, or terminate the Plan in whole or in part or amend any and all Offers granted under the Plan to the extent permitted by law. However, no such action of the Committee may be taken without the approval of the Board and/or the stockholders, if Board and/or stockholder approval would be required under then applicable law.

21. TAX WITHHOLDING

Any amounts to be paid or shares to be delivered to any Eligible Employee under the Plan shall be reduced by any sums required by law to be withheld by the Company for payment of taxes, unless the Committee specifies another method of satisfying such taxes.

22. GOVERNING LAW

The Plan and all Offers shall be construed in accordance with and governed by the laws of the State of New York.

23. EMPLOYMENT AT WILL

This document is neither a contract nor a guarantee of continued employment for any definite period of time. An Employee's employment is always on an at-will basis.

Exhibit 15

November 4, 2019

Securities and Exchange Commission
100 F Street, N.E.
Washington, DC 20549

Re: JPMorgan Chase & Co.

Registration Statements on Form S-3
(No. 333-222672)
(No. 333-222672-01)
(No. 333-230098)

Registration Statements on Form S-8
(No. 333-219702)
(No. 333-219701)
(No. 333-219699)
(No. 333-185584)
(No. 333-185582)
(No. 333-185581)
(No. 333-175681)
(No. 333-158325)
(No. 333-142109)
(No. 333-125827)
(No. 333-112967)

Commissioners:

We are aware that our report dated November 4, 2019 on our review of interim financial information of JPMorgan Chase & Co. and its subsidiaries (the “Firm”), which appears in this Quarterly Report on Form 10-Q, is incorporated by reference in the Registration Statements of the Firm referred to above. Pursuant to Rule 436(c) under the Securities Act of 1933, such report should not be considered a part of such Registration Statements, and is not a report within the meaning of Sections 7 and 11 of that Act.

Very truly yours,

/s/ PricewaterhouseCoopers LLP

PricewaterhouseCoopers LLP, 300 Madison Avenue, New York, NY 10017

Exhibit 31.1
JPMorgan Chase & Co.

CERTIFICATION

I, James Dimon, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of JPMorgan Chase & Co.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent function):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 4, 2019

/s/ James Dimon

James Dimon
Chairman and Chief Executive Officer

Exhibit 31.2

JPMorgan Chase & Co.

CERTIFICATION

I, Jennifer Piepszak, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of JPMorgan Chase & Co.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
   - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
   - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
   - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
   - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent function):
   - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
   - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 4, 2019

/s/ Jennifer Piepszak

Jennifer Piepszak
Executive Vice President and Chief Financial Officer

Exhibit 32

JPMorgan Chase & Co.

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report of JPMorgan Chase & Co. on Form 10-Q for the period ended September 30, 2019 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), each of the undersigned officers of JPMorgan Chase & Co., certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of JPMorgan Chase & Co.

Date: November 4, 2019

By: /s/ James Dimon

James Dimon
Chairman and Chief Executive Officer

Date: November 4, 2019

By: /s/ Jennifer Piepszak

Jennifer Piepszak
Executive Vice President and Chief Financial Officer

This certification accompanies this Quarterly Report on Form 10-Q and shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, or otherwise subject to the liability of that Section.

A signed original of this written statement required by Section 906 has been provided to, and will be retained by, JPMorgan Chase & Co. and furnished to the Securities and Exchange Commission or its staff upon request.