JPMORGAN CHASE BANK, NATIONAL ASSOCIATION

(a wholly-owned subsidiary of JPMorgan Chase & Co.)

CONSOLIDATED FINANCIAL STATEMENTS

For the six months ended June 30, 2017

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For the six months ended June 30, 2017

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JPMorgan Chase Bank, National Association
(a wholly-owned subsidiary of JPMorgan Chase & Co.)
Consolidated statements of income (unaudited)

	Six months ended June 30,	
(in millions)	**2017**	2016
Revenue		
Investment banking fees	**$ 1,722**	$ 1,148
Principal transactions	**5,619**	4,949
Lending- and deposit-related fees	**2,934**	2,808
Asset management, administration and commissions[a]	**5,746**	5,500
Securities gains/(losses)	**(37)**	71
Mortgage fees and related income	**810**	1,356
Card income	**2,203**	2,138
Other income	**2,596**	2,570
Noninterest revenue	**21,593**	20,540
Interest income	**22,912**	20,347
Interest expense	**3,004**	2,292
Net interest income	**19,908**	18,055
Total net revenue	**41,501**	38,595
Provision for credit losses	**869**	1,877
Noninterest expense		
Compensation expense	**12,571**	12,045
Occupancy expense	**1,720**	1,618
Technology, communications and equipment expense	**3,472**	3,062
Professional and outside services	**2,327**	2,400
Marketing	**493**	411
Other expense[a]	**5,132**	3,918
Total noninterest expense	**25,715**	23,454
Income before income tax expense	**14,917**	13,264
Income tax expense	**4,644**	4,271
Net income	**$ 10,273**	$ 8,993

(a) The prior period amounts have been revised to conform with the current period presentation. The revision had no impact on JPMorgan Chase Bank, N.A.'s net income.

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

JPMorgan Chase Bank, National Association
(a wholly-owned subsidiary of JPMorgan Chase & Co.)
Consolidated statements of comprehensive income (unaudited)

	Six months ended June 30,	
(in millions)	**2017**	2016
Net income	**$ 10,273**	$ 8,993
Other comprehensive income, after-tax		
Unrealized gains on investment securities	**708**	1,283
Translation adjustments, net of hedges	**(7)**	2
Cash flow hedges	**146**	(156)
Defined benefit pension and other postretirement employee benefit (“OPEB”) plans	**(41)**	28
Debit valuation adjustment (“DVA”) on fair value option elected liabilities	**(14)**	28
Total other comprehensive income, after-tax	**792**	1,185
Comprehensive income	**$ 11,065**	$ 10,178

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

JPMorgan Chase Bank, National Association
(a wholly-owned subsidiary of JPMorgan Chase & Co.)
Consolidated balance sheets (unaudited)

(in millions, except share data)		Jun 30, 2017		Dec 31, 2016
Assets				
Cash and due from banks	$	19,991	$	21,202
Deposits with banks		454,119		388,655
Federal funds sold and securities purchased under resale agreements (included **$3,969** and $5,349 at fair value)		156,244		172,607
Securities borrowed (included **$1,590** and $0 at fair value)		27,652		32,497
Trading assets (included assets pledged of **$58,387** and $51,303)		268,039		245,329
Securities (included **$212,012** and $234,870 at fair value and assets pledged of **$20,667** and $19,116)		259,773		285,038
Loans (included **$1,978** and $2,228 at fair value)		808,973		792,119
Allowance for loan losses		(10,123)		(10,715)
Loans, net of allowance for loan losses		798,850		781,404
Accrued interest and accounts receivable		50,502		40,805
Premises and equipment		13,536		13,491
Goodwill		27,142		27,130
Mortgage servicing rights		5,753		6,096
Other intangible assets		147		170
Other assets (included **$0** and $41 at fair value and assets pledged of **$1,337** and $1,429)		70,258		68,379
Total assets[(a)]	$	2,152,006	$	2,082,803
Liabilities				
Deposits (included **$17,800** and $13,965 at fair value)	$	1,539,823	$	1,480,238
Federal funds purchased and securities loaned or sold under repurchase agreements (included **$1,968** and $399 at fair value)		92,982		74,778
Other borrowed funds (included **$5,031** and $5,571 at fair value)		12,067		12,179
Trading liabilities		106,631		111,700
Accounts payable and other liabilities (included **$7,607** and $7,494 at fair value)		82,592		84,239
Beneficial interests issued by consolidated variable interest entities		5,062		7,451
Long-term debt (included $**18,520** and $14,936 at fair value)		102,697		107,131
Total liabilities[(a)]		1,941,854		1,877,716
Commitments and contingencies (see Notes 20, 21 and 22)				
Stockholder's equity				
Preferred stock ($1 par value; authorized 15,000,000 shares; issued **0** shares)		–		–
Common stock ($12 par value; authorized 200,000,000 shares; issued **148,761,243** shares)		1,785		1,785
Additional paid-in capital		94,125		94,125
Retained earnings		112,585		108,312
Accumulated other comprehensive income		1,657		865
Total stockholder's equity		210,152		205,087
Total liabilities and stockholder's equity	$	2,152,006	$	2,082,803

(a) The following table presents information on assets and liabilities related to variable interest entities ("VIEs") that are consolidated by JPMorgan Chase Bank, N.A. at June 30, 2017, and December 31, 2016. The difference between total VIE assets and liabilities represents JPMorgan Chase Bank, N.A.'s interests in those entities, which were eliminated in consolidation.

(in millions)		Jun 30, 2017		Dec 31, 2016
Assets				
Trading assets	$	2,475	$	2,655
Loans		29,015		29,695
All other assets		1,761		2,150
Total assets	$	33,251	$	34,500
Liabilities				
Beneficial interests issued by consolidated VIEs	$	5,062	$	7,451
All other liabilities		332		377
Total liabilities	$	5,394	$	7,828

The assets of the consolidated VIEs are used to settle the liabilities of those entities. The holders of the beneficial interests do not have recourse to the general credit of JPMorgan Chase Bank, N.A. At both June 30, 2017, and December 31, 2016, JPMorgan Chase Bank, N.A. provided limited program-wide credit enhancements of $2.4 billion related to its JPMorgan Chase Bank, N.A.-administered multi-seller conduits, which are eliminated in consolidation. For further discussion, see Note 14.

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

JPMorgan Chase Bank, National Association
(a wholly-owned subsidiary of JPMorgan Chase & Co.)
Consolidated statements of changes in stockholder's equity (unaudited)

	Six months ended June 30,	
(in millions)	**2017**	2016
Common stock		
Balance at January 1 and June 30	**$ 1,785**	$ 1,785
Additional paid-in capital		
Balance at January 1 and June 30	**94,125**	92,782
Retained earnings		
Balance at January 1	**108,312**	98,951
Cumulative effect of change in accounting principle	**—**	(11)
Net income	**10,273**	8,993
Dividends declared to JPMorgan Chase & Co.	**(6,000)**	(5,000)
Balance at June 30	**112,585**	102,933
Accumulated other comprehensive income		
Balance at January 1	**865**	2,020
Cumulative effect of change in accounting principle	**—**	11
Other comprehensive income/(loss)	**792**	1,185
Balance at June 30	**1,657**	3,216
Total stockholder's equity	**$ 210,152**	$ 200,716

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

JPMorgan Chase Bank, National Association
(a wholly-owned subsidiary of JPMorgan Chase & Co.)
Consolidated statements of cash flows (unaudited)

	Six months ended June 30,	
(in millions)	**2017**	2016
Operating activities		
Net income	**$ 10,273**	$ 8,993
Adjustments to reconcile net income to net cash provided by operating activities:		
Provision for credit losses	**869**	1,877
Depreciation and amortization	**2,813**	2,465
Deferred tax expense/(benefit)	**111**	(730)
Other	**37**	(71)
Originations and purchases of loans held-for-sale	**(58,119)**	(24,963)
Proceeds from sales, securitizations and paydowns of loans held-for-sale	**52,984**	22,355
Net change in:		
Trading assets	**(13,229)**	(41,190)
Securities borrowed	**4,935**	(8,944)
Accrued interest and accounts receivable	**(9,944)**	(12,821)
Other assets	**4,014**	(13,254)
Trading liabilities	**(14,740)**	31,186
Accounts payable and other liabilities	**(3,089)**	4,032
Other operating adjustments	**4,827**	5,982
Net cash used in operating activities	**(18,258)**	(25,083)
Investing activities		
Net change in:		
Deposits with banks	**(65,464)**	(31,516)
Federal funds sold and securities purchased under resale agreements	**16,426**	(23,062)
Held-to-maturity securities:		
Proceeds from paydowns and maturities	**2,289**	2,718
Purchases	**—**	(134)
Available-for-sale securities:		
Proceeds from paydowns and maturities	**29,137**	32,895
Proceeds from sales	**42,920**	21,523
Purchases	**(45,567)**	(41,014)
Proceeds from sales and securitizations of loans held-for-investment	**7,762**	5,599
Other changes in loans, net	**(25,439)**	(48,376)
All other investing activities, net	**193**	(152)
Net cash used in investing activities	**(37,743)**	(81,519)
Financing activities		
Net change in:		
Deposits	**48,409**	111,711
Federal funds purchased and securities loaned or sold under repurchase agreements	**18,119**	15,874
Other borrowed funds	**(744)**	(15,797)
Beneficial interests issued by consolidated variable interest entities	**(805)**	143
Proceeds from long-term borrowings	**10,753**	24,831
Payments of long-term borrowings	**(16,302)**	(26,162)
Dividends paid to JPMorgan Chase & Co.	**(6,000)**	(5,000)
All other financing activities, net	**1,263**	330
Net cash provided by financing activities	**54,693**	105,930
Effect of exchange rate changes on cash and due from banks	**97**	27
Net decrease in cash and due from banks	**(1,211)**	(645)
Cash and due from banks at the beginning of the period	**21,202**	19,359
Cash and due from banks at the end of the period	**$ 19,991**	$ 18,714
Cash interest paid	**$ 2,903**	$ 2,119
Cash income taxes paid, net	**986**	930

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

See the Glossary of Terms and Acronyms on pages 82-85 for definitions of terms and acronyms used throughout the Notes to Consolidated Financial Statements.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (unaudited)

Note 1 – Overview and basis of presentation

JPMorgan Chase Bank, National Association ("JPMorgan Chase Bank, N.A."), is a wholly-owned bank subsidiary of JPMorgan Chase & Co. ("JPMorgan Chase"), which 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 Bank, N.A. is a national banking association that is chartered by the Office of the Comptroller of the Currency ("OCC"), a bureau of the United States Department of the Treasury. JPMorgan Chase Bank, N.A.'s main office is located in Columbus, Ohio, and it has retail branches in 23 states. JPMorgan Chase Bank, N.A. operates nationally as well as through non-U.S. bank branches and subsidiaries, and representative offices. JPMorgan Chase Bank, N.A. either directly or through such offices, branches and subsidiaries offers a wide range of banking services to its U.S. and non-U.S. customers including investment banking, financial services for consumers and small businesses, commercial banking, financial transactions processing and asset management. Under the J.P. Morgan and Chase brands, JPMorgan Chase Bank, N.A. serves millions of customers in the U.S. and many of the world's most prominent corporate, institutional and government clients.

The JPMorgan Chase Bank, N.A. Board of Directors is responsible for the oversight of the management of JPMorgan Chase Bank, N.A. The JPMorgan Chase Bank, N.A. Board accomplishes this function acting directly and through the principal standing committees of JPMorgan Chase's Board of Directors. Risk and controls oversight on behalf of JPMorgan Chase Bank N.A. is primarily the responsibility of the Directors' Risk Policy Committee ("DRPC") and Audit Committee of JPMorgan Chase's Board of Directors and, with respect to compensation and other management-related matters, the Compensation & Management Development Committee of JPMorgan Chase's Board of Directors.

The accounting and financial reporting policies of JPMorgan Chase Bank, N.A. and its subsidiaries conform to accounting principles generally accepted in the U.S. ("U.S. GAAP"). Additionally, where applicable, the policies conform to the accounting and reporting guidelines prescribed by regulatory authorities.

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 for a fair statement of this interim financial information.

These unaudited Consolidated Financial Statements should be read in conjunction with the audited Consolidated Financial Statements, and related notes thereto, included in JPMorgan Chase Bank, N.A.'s 2016 Annual Financial Statements.

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 Bank, N.A. and other entities in which JPMorgan Chase Bank, N.A. 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 JPMorgan Chase Bank, N.A. are not assets of JPMorgan Chase Bank, N.A. and are not included on the Consolidated balance sheets.

JPMorgan Chase Bank, N.A. determines whether it has a controlling financial interest in an entity by first evaluating whether the entity is a voting interest entity or a VIE.

For a further description of JPMorgan Chase Bank, N.A.'s accounting policies regarding consolidation, see Notes 1 and 17 of JPMorgan Chase Bank, N.A.'s 2016 Annual Financial Statements.

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 sold and purchased under repurchase agreements to be presented net when specified conditions are met, including the existence of a legally enforceable master netting agreement. JPMorgan Chase Bank, N.A. has elected to net such balances when the specified conditions are met. For further information on offsetting assets and liabilities, see Note 1 of JPMorgan Chase Bank, N.A.'s 2016 Annual Financial Statements.

Note 2 – Accounting and reporting developments

Financial Accounting Standards Board ("FASB") Standards Issued but not yet Adopted

Standard	Summary of guidance	Effects on financial statements
Revenue recognition – revenue from contracts with customers *Issued May 2014*	• Requires that revenue from contracts with customers be recognized upon transfer of control of a good or service in the amount of consideration expected to be received. • Changes the accounting for certain contract costs, including whether they may be offset against revenue in the Consolidated statements of income, and requires additional disclosures about revenue and contract costs. • May be adopted using a full retrospective approach or a modified, cumulative effect approach wherein the guidance is applied only to existing contracts as of the date of initial application, and to new contracts transacted after that date.	• Required effective date: January 1, 2018.[a] • Because the guidance does not apply to revenue associated with financial instruments, including loans and securities that are accounted for under other U.S. GAAP, JPMorgan Chase Bank, N.A. does not expect the new revenue recognition guidance to have a material impact on the elements of its Consolidated statements of income most closely associated with financial instruments, including securities gains, interest income and interest expense. • JPMorgan Chase Bank, N.A. plans to adopt the revenue recognition guidance in the first quarter of 2018 using the modified retrospective method of adoption. JPMorgan Chase Bank, N.A.'s implementation efforts include the identification of revenue within the scope of the guidance, as well as the evaluation of revenue contracts and related accounting policies. While JPMorgan Chase Bank, N.A. has not yet identified any material changes in the timing of revenue recognition, JPMorgan Chase Bank, N.A.'s review is ongoing, and it continues to evaluate the presentation of certain contract costs (whether presented gross or offset against noninterest revenue). JPMorgan Chase Bank, N.A. plans to expand its qualitative disclosures within the noninterest revenue and noninterest expense note to the Consolidated Financial Statements.
Recognition and measurement of financial assets and financial liabilities *Issued January 2016*	• Requires that certain equity instruments be measured at fair value, with changes in fair value recognized in earnings. • Generally requires a cumulative-effect adjustment to retained earnings as of the beginning of the reporting period of adoption.	• Required effective date: January 1, 2018.[a] • JPMorgan Chase Bank, N.A. early adopted the provisions of this guidance related to presenting DVA in other comprehensive income ("OCI") for financial liabilities where the fair value option has been elected, effective January 1, 2016. JPMorgan Chase Bank, N.A. plans to adopt the portions of the guidance that were not eligible for early adoption in the first quarter of 2018. • JPMorgan Chase Bank, N.A. is currently evaluating the additional impacts on the Consolidated Financial Statements. JPMorgan Chase Bank, N.A.'s implementation efforts include the identification of securities within the scope of the guidance, the evaluation of the measurement alternative available for equity securities without a readily determinable fair value, and the related impact to accounting policies, presentation, and disclosures.
Leases *Issued February 2016*	• Requires lessees to recognize all leases longer than twelve months on the Consolidated balance sheets as lease liabilities with corresponding right-of-use assets. • 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 disclosures regarding leasing arrangements. • Requires adoption using a modified cumulative effect approach wherein the guidance is applied to all periods presented.	• Required effective date: January 1, 2019.[a] • JPMorgan Chase Bank, N.A. is currently evaluating the potential impact on the Consolidated Financial Statements by reviewing its existing lease contracts and service contracts that may include embedded leases. JPMorgan Chase Bank, N.A. expects to recognize lease liabilities and corresponding right-of-use assets (at their present value) related to predominantly all of the $9 billion of future minimum payments required under operating leases as disclosed in Note 28 of JPMorgan Chase Bank, N.A.'s 2016 Consolidated Financial Statements. However, the population of contracts subject to balance sheet recognition and their initial measurement remains under evaluation. JPMorgan Chase Bank, N.A. does not expect material changes to the recognition of operating lease expense in its Consolidated statements of income. • JPMorgan Chase Bank, N.A. plans to adopt the new guidance in the first quarter of 2019.

FASB Standards Issued but not yet Adopted (continued)

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 (including held-to-maturity ("HTM") securities), which will reflect management's estimate of credit losses over the full remaining expected life of the financial assets. • Eliminates existing guidance for purchase credit-impaired ("PCI") loans, and requires recognition of an allowance for expected credit losses on financial assets purchased with more than insignificant credit deterioration since origination. • Amends existing impairment guidance for available-for-sale securities to incorporate an allowance, which will allow for reversals of impairment losses 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)] • JPMorgan Chase Bank, N.A has begun its implementation efforts by establishing a firmwide, cross-discipline governance structure. JPMorgan Chase Bank, N.A is currently identifying key interpretive issues, and is assessing existing credit loss forecasting models and processes against the new guidance to determine what modifications may be required. JPMorgan Chase Bank, N.A. is also evaluating the timing of adoption, as early adoption is permitted as of January 1, 2019. • JPMorgan Chase Bank, N.A. expects that the new guidance will result in an increase in its allowance for credit losses due to several factors, including: 1. The allowance related to JPMorgan Chase Bank, N.A.'s loans and commitments will increase to cover credit losses over the full remaining expected life of the portfolio, and will consider expected future changes in macroeconomic conditions 2. The nonaccretable difference on PCI loans will be recognized as an allowance, offset by an increase in the carrying value of the related loans 3. An allowance will be established for estimated credit losses on HTM securities • The extent of the increase is under evaluation, but will depend upon the nature and characteristics of JPMorgan Chase Bank, N.A.'s portfolio at the adoption date, and the macroeconomic conditions and forecasts at that date.
Classification of certain cash receipts and cash payments in the Statement of cash flows *Issued August 2016*	• Provides targeted amendments to the classification of certain cash flows, including treatment of cash payments for settlement of zero-coupon debt instruments and distributions received from equity method investments. • Requires retrospective application to all periods presented.	• Required effective date: January 1, 2018.[(a)] • No material impact is expected because JPMorgan Chase Bank, N.A. is either already in compliance with the new guidance or the balances to which it would be applied are immaterial. JPMorgan Chase Bank, N.A. plans to adopt the new guidance in the first quarter of 2018.
Treatment of restricted cash on the statement of cash flows *Issued November 2016*	• Requires inclusion of restricted cash in the cash and cash equivalents balances in the Consolidated statements of cash flows. • Requires additional disclosures to supplement the Consolidated statements of cash flows. • Requires retrospective application to all periods presented.	• Required effective date: January 1, 2018.[(a)] • The guidance will have no impact on the JPMorgan Chase Bank, N.A.'s Consolidated statements of income or Consolidated balance sheets, but will result in reclassification of restricted cash balances and associated changes on the Consolidated statements of cash flows. • JPMorgan Chase Bank, N.A. plans to adopt the new guidance in the first quarter of 2018.
Definition of a business *Issued January 2017*	• Narrows the definition of a business and clarifies that, to be considered a business, the fair value of the gross assets acquired (or disposed of) may not be substantially all concentrated in a single identifiable asset or a group of similar assets. • In addition, in order to be considered a business, a set of activities and assets must include, at a minimum, an input and a substantive process that together significantly contribute to the ability to create outputs.	• Required effective date: January 1, 2018.[(a)] • No material impact is expected because the guidance is to be applied prospectively, although it is anticipated that after adoption, fewer transactions will be treated as acquisitions or dispositions of a business. JPMorgan Chase Bank, N.A. plans to adopt the new guidance in the first quarter of 2018.
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, JPMorgan Chase Bank, N.A. does not expect a material effect on the Consolidated Financial Statements. • After adoption, the guidance may result in more frequent goodwill impairment losses due to the removal of the second condition. • JPMorgan Chase Bank, N.A. is evaluating the timing of adoption.

FASB Standards Issued but not yet Adopted (continued)

Standard	Summary of guidance	Effects on financial statements
Presentation of net periodic pension cost and net periodic postretirement benefit cost *Issued March 2017*	• Requires the service cost component of net periodic pension and postretirement benefit cost to be reported separately in the consolidated results of operations from the other components (e.g., expected return on assets, interest costs, amortization of gains/losses and prior service costs). • Requires presentation in the consolidated results of operations of the service cost component in the same line item as other employee compensation costs and presentation of the other components in a different line item from the service cost component.	• Required effective date: January 1, 2018.[(a)] • The guidance will have no impact on JPMorgan Chase Bank, N.A.'s net income, but based on recent trends, JPMorgan Chase Bank, N.A. expects that the guidance will result in an increase in compensation expense and a reduction in other expense. JPMorgan Chase Bank, N.A. plans to adopt the new guidance in the first quarter of 2018.
Premium amortization on purchased callable debt securities *Issued March 2017*	• Requires amortization of premiums to the earliest call date on debt securities with call features that are explicit, noncontingent and callable at fixed prices and on preset dates. • Does not impact securities held at a discount; the discount continues to be amortized to the contractual maturity. • Requires adoption on a modified retrospective basis through a cumulative-effect adjustment directly to retained earnings as of the beginning of the period of adoption.	• Required effective date: January 1, 2019.[(a)] • JPMorgan Chase Bank, N.A. is currently evaluating the impact on the Consolidated Financial Statements as well as the timing of adoption. At adoption, the guidance is expected to result in a cumulative effect adjustment which will reduce retained earnings with a corresponding increase to accumulated other comprehensive income ("AOCI") for available-for-sale ("AFS") securities. Post-adoption, it will result in reduced interest income prior to the call date on callable debt securities held at a premium because those premiums will be amortized over a shorter time period. • JPMorgan Chase Bank, N.A.'s implementation efforts include identifying the population of debt securities subject to the new guidance (primarily obligations of U.S. states and municipalities) and quantifying the expected impact.

(a) Early adoption is permitted.

Note 3 – Fair value measurement

For a discussion of JPMorgan Chase Bank, N.A.'s valuation methodologies for assets, liabilities and lending-related commitments measured at fair value and the fair value hierarchy, see Note 4 of JPMorgan Chase Bank, N.A.'s 2016 Annual Financial Statements.

The following table presents the assets and liabilities reported at fair value as of June 30, 2017, and December 31, 2016, by major product category and fair value hierarchy.

Assets and liabilities measured at fair value on a recurring basis

	Fair value hierarchy			Derivative netting adjustments	
June 30, 2017 (in millions)	Level 1	Level 2	Level 3		Total fair value
Federal funds sold and securities purchased under resale agreements	$ –	$ 3,969	$ –	$ –	$ 3,969
Securities borrowed	–	1,590	–	–	1,590
Trading assets:					
Debt instruments:					
Mortgage-backed securities:					
U.S. government agencies[a]	–	63	335	–	398
Residential – nonagency	–	817	11	–	828
Commercial – nonagency	–	84	10	–	94
Total mortgage-backed securities	–	964	356	–	1,320
U.S. Treasury and government agencies[a]	14,622	57	–	–	14,679
Obligations of U.S. states and municipalities	–	3,786	15	–	3,801
Certificates of deposit, bankers' acceptances and commercial paper	–	652	–	–	652
Non-U.S. government debt securities	31,443	31,988	37	–	63,468
Corporate debt securities	–	17,702	270	–	17,972
Loans	–	31,422	4,088	–	35,510
Asset-backed securities	–	714	29	–	743
Total debt instruments	46,065	87,285	4,795	–	138,145
Equity securities	61,006	27	130	–	61,163
Physical commodities[b]	82	–	–	–	82
Other	–	11,185	302	–	11,487
Total debt and equity instruments[c]	107,153	98,497	5,227	–	210,877
Derivative receivables:					
Interest rate	136	525,638	1,816	(500,897)	26,693
Credit	–	23,986	1,289	(24,347)	928
Foreign exchange	852	174,679	556	(159,448)	16,639
Equity	–	51,883	3,522	(48,432)	6,973
Commodity	–	32,146	73	(26,342)	5,877
Total derivative receivables[d]	988	808,332	7,256	(759,466)	57,110
Total trading assets[e]	108,141	906,829	12,483	(759,466)	267,987
Available-for-sale securities:					
Mortgage-backed securities:					
U.S. government agencies[a]	4	67,913	–	–	67,917
Residential – nonagency	–	13,877	1	–	13,878
Commercial – nonagency	–	6,277	–	–	6,277
Total mortgage-backed securities	4	88,067	1	–	88,072
U.S. Treasury and government agencies[a]	28,158	–	–	–	28,158
Obligations of U.S. states and municipalities	–	30,173	–	–	30,173
Certificates of deposit	–	57	–	–	57
Non-U.S. government debt securities	19,291	11,280	–	–	30,571
Corporate debt securities	–	4,132	–	–	4,132
Asset-backed securities:					
Collateralized loan obligations	–	23,780	547	–	24,327
Other	–	6,483	–	–	6,483
Equity securities	39	–	–	–	39
Total available-for-sale securities	47,492	163,972	548	–	212,012
Loans	–	1,674	304	–	1,978
Mortgage servicing rights ("MSRs")	–	–	5,753	–	5,753
Other assets	–	–	–	–	–
Total assets measured at fair value on a recurring basis	$ 155,633	$ 1,078,034	$ 19,088	$ (759,466)	$ 493,289
Deposits	$ –	$ 15,664	$ 2,136	$ –	$ 17,800
Federal funds purchased and securities loaned or sold under repurchase agreements	–	1,968	–	–	1,968
Other borrowed funds	–	3,765	1,266	–	5,031
Trading liabilities:					
Debt and equity instruments[c]	48,206	16,751	34	–	64,991
Derivative payables:					
Interest rate	87	490,553	1,504	(483,057)	9,087
Credit	–	24,176	1,334	(24,047)	1,463
Foreign exchange	983	176,945	1,313	(164,871)	14,370
Equity	–	55,344	4,889	(50,535)	9,698
Commodity	–	32,851	188	(26,017)	7,022
Total derivative payables[d]	1,070	779,869	9,228	(748,527)	41,640
Total trading liabilities	49,276	796,620	9,262	(748,527)	106,631
Accounts payable and other liabilities	7,607	–	–	–	7,607
Long-term debt	–	9,146	9,374	–	18,520
Total liabilities measured at fair value on a recurring basis	$ 56,883	$ 827,163	$ 22,038	$ (748,527)	$ 157,557

December 31, 2016 (in millions)	Fair value hierarchy Level 1	Level 2	Level 3	Derivative netting adjustments	Total fair value
Federal funds sold and securities purchased under resale agreements	$ –	$ 5,349	$ –	$ –	$ 5,349
Securities borrowed	–	–	–	–	–
Trading assets:					
Debt instruments:					
Mortgage-backed securities:					
U.S. government agencies[(a)]	–	74	369	–	443
Residential – nonagency	–	818	11	–	829
Commercial – nonagency	–	89	6	–	95
Total mortgage-backed securities	–	981	386	–	1,367
U.S. Treasury and government agencies[(a)]	13,516	52	–	–	13,568
Obligations of U.S. states and municipalities	–	3,897	19	–	3,916
Certificates of deposit, bankers' acceptances and commercial paper	–	245	–	–	245
Non-U.S. government debt securities	28,443	22,994	46	–	51,483
Corporate debt securities	–	14,158	318	–	14,476
Loans	–	28,758	4,325	–	33,083
Asset-backed securities	–	696	70	–	766
Total debt instruments	41,959	71,781	5,164	–	118,904
Equity securities	51,480	19	89	–	51,588
Physical commodities[(b)]	1,102	–	–	–	1,102
Other	–	9,486	281	–	9,767
Total debt and equity instruments[(c)]	94,541	81,286	5,534	–	181,361
Derivative receivables:					
Interest rate	289	607,393	2,658	(582,320)	28,020
Credit	–	27,759	1,390	(27,916)	1,233
Foreign exchange	816	233,854	928	(212,279)	23,319
Equity	–	47,816	3,089	(45,879)	5,026
Commodity	158	34,774	358	(28,970)	6,320
Total derivative receivables[(d)]	1,263	951,596	8,423	(897,364)	63,918
Total trading assets[(e)]	95,804	1,032,882	13,957	(897,364)	245,279
Available-for-sale securities:					
Mortgage-backed securities:					
U.S. government agencies[(a)]	–	64,005	–	–	64,005
Residential – nonagency	–	14,442	1	–	14,443
Commercial – nonagency	–	8,691	–	–	8,691
Total mortgage-backed securities	–	87,138	1	–	87,139
U.S. Treasury and government agencies[(a)]	44,072	29	–	–	44,101
Obligations of U.S. states and municipalities	–	28,897	–	–	28,897
Certificates of deposit	–	106	–	–	106
Non-U.S. government debt securities	22,793	12,495	–	–	35,288
Corporate debt securities	–	4,958	–	–	4,958
Asset-backed securities:					
Collateralized loan obligations	–	26,738	663	–	27,401
Other	–	6,926	–	–	6,926
Equity securities	54	–	–	–	54
Total available-for-sale securities	66,919	167,287	664	–	234,870
Loans	–	1,660	568	–	2,228
Mortgage servicing rights	–	–	6,096	–	6,096
Other assets	–	–	41	–	41
Total assets measured at fair value on a recurring basis	$ 162,723	$ 1,207,178	$ 21,326	$ (897,364)	$ 493,863
Deposits	$ –	$ 11,844	$ 2,121	$ –	$ 13,965
Federal funds purchased and securities loaned or sold under repurchase agreements	–	399	–	–	399
Other borrowed funds	–	4,552	1,019	–	5,571
Trading liabilities:					
Debt and equity instruments[(c)]	50,393	12,636	36	–	63,065
Derivative payables:					
Interest rate	184	575,305	1,657	(566,601)	10,545
Credit	–	27,042	1,294	(27,038)	1,298
Foreign exchange	932	232,508	2,459	(215,433)	20,466
Equity	–	50,262	4,577	(46,307)	8,532
Commodity	173	34,773	323	(27,475)	7,794
Total derivative payables[(d)]	1,289	919,890	10,310	(882,854)	48,635
Total trading liabilities	51,682	932,526	10,346	(882,854)	111,700
Accounts payable and other liabilities	7,494	–	–	–	7,494
Long-term debt	–	7,274	7,662	–	14,936
Total liabilities measured at fair value on a recurring basis	$ 59,176	$ 956,595	$ 21,148	$ (882,854)	$ 154,065

(a) At June 30, 2017, and December 31, 2016, included total U.S. government-sponsored enterprise obligations of $51.8 billion and $46.3 billion, respectively, which were predominantly mortgage-related.

(b) Physical commodities inventories are generally accounted for at the lower of cost or net realized value. "Net realized value" is a term defined in U.S. GAAP as not exceeding fair value less costs to sell ("transaction costs"). Transaction costs for JPMorgan Chase Bank, N.A.'s physical commodities inventories are either not applicable or immaterial to the value of the inventory. Therefore, net realized value approximates fair value for JPMorgan Chase Bank, N.A.'s physical commodities inventories. When fair value hedging has been applied (or when net realized 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. For a further discussion of JPMorgan Chase Bank, N.A.'s hedge accounting relationships, see Note 5. To provide consistent fair value disclosure information, all physical commodities inventories have been included in each period presented.

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

(d) As permitted under U.S. GAAP, JPMorgan Chase Bank, N.A. 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. For purposes of the tables above, JPMorgan Chase Bank, N.A. does not reduce derivative receivables and derivative payables balances for this netting adjustment, either within or across the levels of the fair value hierarchy, as such netting is not relevant to a presentation based on the transparency of inputs to the valuation of an asset or liability. The level 3 balances would be reduced if netting were applied, including the netting benefit associated with cash collateral. Additionally, includes derivative receivables and payables with affiliates on a net basis. See Note 17 for information regarding our derivative activities with affiliates.

(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 June 30, 2017, and December 31, 2016, the fair values of these investments, which include certain hedge funds, private equity funds, real estate and other funds, were $52 million and $50 million, respectively.

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

For the six months ended June 30, 2017, there were no individually significant transfers.

During the six months ended June 30, 2016, transfers from level 2 into level 3 included $1.3 billion of equity derivative receivables and $1.3 billion of equity derivative payables as a result of a decrease in observability of valuation inputs and price transparency.

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

Level 3 valuations

For further information on JPMorgan Chase Bank, N.A.'s valuation process and a detailed discussion of the determination of fair value for individual financial instruments, see Note 4 of JPMorgan Chase Bank, N.A.'s 2016 Annual Financial Statements.

The following table presents JPMorgan Chase Bank, N.A.'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, JPMorgan Chase Bank, N.A. 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 JPMorgan Chase Bank, N.A.'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 JPMorgan Chase Bank, N.A.'s estimates and assumptions. Rather, they reflect the characteristics of the various instruments held by JPMorgan Chase Bank, N.A. 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 JPMorgan Chase Bank, N.A. at each balance sheet date.

For JPMorgan Chase Bank, N.A.'s derivatives and structured notes positions classified within level 3 at June 30, 2017, interest rate correlation inputs used in estimating fair value were concentrated towards the upper end of the range presented; equity correlation and equity-FX and equity-IR correlation inputs were concentrated in the middle of the range; commodity correlation inputs were concentrated towards the lower end of the range; credit correlation inputs were distributed across the range; and the interest rate-foreign exchange ("IR-FX") correlation inputs were concentrated towards the lower end of the range. In addition, the interest rate spread volatility inputs used in estimating fair value were distributed across the range presented; 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 in the middle of the range presented. Recovery rate, yield, prepayment speed, conditional default rate and loss severity inputs used in estimating the fair value of credit derivatives were distributed across the range; and credit spreads were concentrated towards the lower end of the range.

Level 3 inputs[a]

June 30, 2017 (in millions, except for ratios and basis points)

Product/Instrument	Fair value	Principal valuation technique	Unobservable inputs[g]	Range of input values	Weighted average
Residential mortgage-backed securities and loans[b]	$ 2,533	Discounted cash flows	Yield	5% - 18%	5%
			Prepayment speed	0% - 13%	8%
			Conditional default rate	0% - 5%	2%
			Loss severity	0% - 100%	2%
Commercial mortgage-backed securities and loans[c]	879	Market comparables	Price	$ 2 - $ 100	$ 94
Obligations of U.S. states and municipalities	15	Market comparables	Price	$ 58 - $ 100	$ 97
Corporate debt securities	270	Market comparables	Price	$ 0 - $ 109	$ 90
Loans[d]	1,337	Market comparables	Price	$ 10 - $ 103	$ 85
Asset-backed securities	547	Discounted cash flows	Credit spread	246bps - 461bps	260bps
			Prepayment speed	20%	20%
			Conditional default rate	2%	2%
			Loss severity	30%	30%
	29	Market comparables	Price	$1 - $101	$ 69
Net interest rate derivatives	248	Option pricing	Interest rate spread volatility	3% - 38%	
			Interest rate correlation	(50)% - 97%	
			IR-FX correlation	60% - 70%	
	64	Discounted cash flows	Prepayment speed	4% - 15%	
Net credit derivatives	(45)	Discounted cash flows	Credit correlation	35% - 85%	
			Credit spread	6bps - 1,557bps	
			Recovery rate	20% - 65%	
			Yield	5% - 8%	
			Prepayment speed	2% - 14%	
			Conditional default rate	2% - 100%	
			Loss severity	39% - 100%	
Net foreign exchange derivatives	(561)	Option pricing	IR-FX correlation	(50)% - 70%	
	(196)	Discounted cash flows	Prepayment speed	7%	
Net equity derivatives	(1,367)	Option pricing	Equity volatility	15% - 55%	
			Equity correlation	(5)% - 90%	
			Equity-FX correlation	(55)% - 25%	
			Equity-IR correlation	20% - 35%	
Net commodity derivatives	(115)	Option pricing	Forward commodity price	$41 - $54 per barrel	
			Commodity volatility	22% - 50%	
			Commodity correlation	15% - 97%	
MSRs	5,753	Discounted cash flows	Refer to Note 15		
Other assets	302	Discounted cash flows	Credit spread	40bps - 90bps	65bps
			Yield	0% - 10%	8%
Long-term debt, other borrowed funds, and deposits[e]	12,776	Option pricing	Interest rate spread volatility	3% - 38%	
			Interest rate correlation	(50)% - 97%	
			IR-FX correlation	(50)% - 70%	
			Equity correlation	(5)% - 90%	
			Equity-FX correlation	(55)% - 25%	
			Equity-IR correlation	20% - 35%	
Other level 3 assets and liabilities, net[f]	133				

(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) Includes U.S. government agency securities of $335 million, nonagency securities of $12 million and trading loans of $2.2 billion.
(c) Includes nonagency securities of $10 million, trading loans of $565 million and non-trading loans of $304 million.
(d) Includes trading loans of $1.3 billion.
(e) Long-term debt, other borrowed funds and deposits include structured notes issued by JPMorgan Chase Bank, N.A. that are predominantly financial instruments containing 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

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 JPMorgan Chase Bank, N.A.'s positions see Note 4 of JPMorgan Chase Bank, N.A.'s 2016 Annual Financial Statements.

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 JPMorgan Chase Bank, N.A. within level 3 of the fair value hierarchy for the six months ended June 30, 2017 and 2016. When a determination is made to classify a financial instrument within level 3, the determination is based on the significance of the unobservable parameters 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, JPMorgan Chase Bank, N.A. 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 JPMorgan Chase Bank, N.A.'s risk management activities related to such level 3 instruments.

Six months ended June 30, 2017 (in millions)	Fair value measurements using significant unobservable inputs								
	Fair value at January 1, 2017	Total realized/ unrealized gains/ (losses)	Purchases[f]	Sales	Settlements[g]	Transfers into level 3[h]	Transfers (out of) level 3[h]	Fair value at June 30, 2017	Change in unrealized gains/ (losses) related to financial instruments held at June 30, 2017
Assets:									
Federal funds sold and securities purchased under resale agreements	$ –	$ –	$ –	$ –	$ –	$ –	$ –	$ –	$ –
Trading assets:									
Debt instruments:									
Mortgage-backed securities:									
U.S. government agencies	**$ 369**	**$ (8)**	**$ 155**	**$ (149)**	**$ (32)**	**$ –**	**$ –**	**$ 335**	**$ (16)**
Residential – nonagency	**11**	**1**	**1**	**–**	**(3)**	**4**	**(3)**	**11**	**1**
Commercial – nonagency	**6**	**(1)**	**1**	**–**	**–**	**4**	**–**	**10**	**(1)**
Total mortgage-backed securities	**386**	**(8)**	**157**	**(149)**	**(35)**	**8**	**(3)**	**356**	**(16)**
Obligations of U.S. states and municipalities	**19**	**–**	**–**	**–**	**(4)**	**–**	**–**	**15**	**–**
Non-U.S. government debt securities	**46**	**3**	**175**	**(179)**	**–**	**27**	**(35)**	**37**	**3**
Corporate debt securities	**318**	**4**	**187**	**(122)**	**(19)**	**17**	**(115)**	**270**	**5**
Loans	**4,325**	**148**	**1,412**	**(972)**	**(642)**	**316**	**(499)**	**4,088**	**109**
Asset-backed securities	**70**	**7**	**6**	**(10)**	**(3)**	**–**	**(41)**	**29**	**1**
Total debt instruments	**5,164**	**154**	**1,937**	**(1,432)**	**(703)**	**368**	**(693)**	**4,795**	**102**
Equity securities	**89**	**17**	**43**	**(2)**	**–**	**–**	**(17)**	**130**	**11**
Other	**281**	**95**	**53**	**(3)**	**(120)**	**7**	**(11)**	**302**	**33**
Total trading assets – debt and equity instruments	**5,534**	**266** (c)	**2,033**	**(1,437)**	**(823)**	**375**	**(721)**	**5,227**	**146** (c)
Net derivative receivables:[a]									
Interest rate	**1,001**	**(25)**	**118**	**(165)**	**(464)**	**35**	**(188)**	**312**	**(215)**
Credit	**96**	**(97)**	**4**	**(3)**	**(62)**	**17**	**–**	**(45)**	**(41)**
Foreign exchange	**(1,531)**	**43**	**3**	**(17)**	**646**	**24**	**75**	**(757)**	**22**
Equity	**(1,488)**	**(239)**	**1,019**	**(238)**	**(515)**	**21**	**73**	**(1,367)**	**(163)**
Commodity	**35**	**(155)**	**–**	**–**	**(3)**	**7**	**1**	**(115)**	**27**
Total net derivative receivables	**(1,887)**	**(473)** (c)	**1,144**	**(423)**	**(398)**	**104**	**(39)**	**(1,972)**	**(370)** (c)
Available-for-sale securities:									
Asset-backed securities	**663**	**12**	**–**	**(50)**	**(78)**	**–**	**–**	**547**	**10**
Other	**1**	**–**	**–**	**–**	**–**	**–**	**–**	**1**	**–**
Total available-for-sale securities	**664**	**12** (d)	**–**	**(50)**	**(78)**	**–**	**–**	**548**	**10** (d)
Loans	**568**	**24** (c)	**1**	**–**	**(289)**	**–**	**–**	**304**	**16** (c)
Mortgage servicing rights	**6,096**	**(157)** (e)	**371**	**(138)**	**(419)**	**–**	**–**	**5,753**	**(157)** (e)
Other assets	**41**	**9** (f)	**–**	**(13)**	**(37)**	**–**	**–**	**–**	**–**

Six months ended June 30, 2017 (in millions)	Fair value measurements using significant unobservable inputs									
	Fair value at January 1, 2017	Total realized/ unrealized (gains)/ losses	Purchases	Sales	Issuances	Settlements[g]	Transfers into level 3[h]	Transfers (out of) level 3[h]	Fair value at June 30, 2017	Change in unrealized (gains)/losses related to financial instruments held at June 30, 2017
Liabilities:[b]										
Deposits	**$ 2,121**	**$ 33** (c)	**$ –**	**$ –**	**$ 563**	**$ (117)**	**$ –**	**$ (464)**	**$ 2,136**	**$ 65** (c)
Federal funds purchased and securities loaned or sold under repurchase agreements	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**
Other borrowed funds	**1,019**	**62** (c)	**–**	**–**	**1,226**	**(1,033)**	**41**	**(49)**	**1,266**	**51** (c)
Trading liabilities – debt and equity instruments	**36**	**(1)** (c)	**(7)**	**2**	**–**	**1**	**3**	**–**	**34**	**–**
Beneficial interests issued by consolidated VIEs	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**
Long-term debt	**7,662**	**661** (c)	**–**	**–**	**4,297**	**(3,190)**	**40**	**(96)**	**9,374**	**648** (c)

Six months ended June 30, 2016 (in millions)	Fair value measurements using significant unobservable inputs								Change in unrealized gains/(losses) related to financial instruments held at June 30, 2016
	Fair value at January 1, 2016	Total realized/unrealized gains/(losses)	Purchases[f]	Sales	Settlements[g]	Transfers into level 3[h]	Transfers (out of) level 3[h]	Fair value at June 30, 2016	
Assets:									
Federal funds sold and securities purchased under resale agreements	$ –	$ –	–	$ –	$ –	4	(4)	–	$ –
Trading assets:									
Debt instruments:									
Mortgage-backed securities:									
U.S. government agencies	$ 664	$ (76)	$ 78	$ (159)	$ (57)	$ –	$ –	$ 450	$ (79)
Residential – nonagency	19	(2)	6	(4)	(2)	–	(1)	16	(2)
Commercial – nonagency	6	–	–	(1)	–	–	–	5	1
Total mortgage-backed securities	689	(78)	84	(164)	(59)	–	(1)	471	(80)
Obligations of U.S. states and municipalities	26	–	–	–	(6)	–	–	20	–
Non-U.S. government debt securities	74	8	51	(79)	–	–	(17)	37	(14)
Corporate debt securities	482	(29)	195	(133)	(118)	52	(128)	321	1
Loans	5,364	(181)	822	(1,074)	(491)	732	(240)	4,932	(211)
Asset-backed securities	78	10	263	(162)	(48)	–	(1)	140	2
Total debt instruments	6,713	(270)	1,415	(1,612)	(722)	784	(387)	5,921	(302)
Equity securities	88	(6)	26	(7)	(9)	11	–	103	13
Other	342	122	435	(372)	(129)	25	(102)	321	46
Total trading assets – debt and equity instruments	7,143	(154) [c]	1,876	(1,991)	(860)	820	(489)	6,345	(243) [c]
Net derivative receivables:[a]									
Interest rate	605	447	76	(99)	(450)	6	43	628	(96)
Credit	535	(441)	–	(2)	141	41	15	289	(405)
Foreign exchange	(898)	(257)	59	(118)	(130)	(45)	19	(1,370)	(82)
Equity	(1,223)	(517)	1,406	(1,374)	24	1	(62)	(1,745)	(400)
Commodity	(1,324)	883	7	–	(89)	1	(8)	(530)	262
Total net derivative receivables	(2,305)	115 [c]	1,548	(1,593)	(504)	4	7	(2,728)	(721) [c]
Available-for-sale securities:									
Asset-backed securities	779	–	–	–	(12)	–	–	767	(14)
Other	1	–	–	–	–	–	–	1	–
Total available-for-sale securities	780	–	–	–	(12)	–	–	768	(14) [d]
Loans	1,408	(13) [c]	184	–	(525)	–	(313)	741	(16) [c]
Mortgage servicing rights	6,608	(1,209) [e]	220	(67)	(480)	–	–	5,072	(1,209) [e]
Other assets	5,670	(15) [f]	30	(1,541)	(1,672)	1	–	2,473	(4) [f]

Six months ended June 30, 2016 (in millions)	Fair value measurements using significant unobservable inputs									Change in unrealized (gains)/losses related to financial instruments held at June 30, 2016
	Fair value at January 1, 2016	Total realized/unrealized (gains)/losses	Purchases	Sales	Issuances	Settlements[g]	Transfers into level 3[h]	Transfers (out of) level 3[h]	Fair value at June 30, 2016	
Liabilities:[b]										
Deposits	$ 2,970	$ 110 [c]	$ –	$ –	$ 481	$ (671)	$ –	$ (457)	$ 2,433	$ 29 [c]
Federal funds purchased and securities loaned or sold under repurchase agreements	–	–	–	–	–	–	4	(4)	–	–
Other borrowed funds	636	(160) [c]	–	–	755	(416)	50	(29)	836	37 [c]
Trading liabilities – debt and equity instruments	48	(17) [c]	7	23	–	(11)	2	(4)	48	–
Beneficial interests issued by consolidated VIEs	–	(6) [c]	–	–	157	(4)	–	–	147	(6) [c]
Long-term debt	6,783	148 [c]	–	–	2,968	(2,093)	335	(811)	7,330	363 [c]

(a) All level 3 derivatives are presented on a net basis, irrespective of the underlying counterparty.

(b) Level 3 liabilities as a percentage of total JPMorgan Chase Bank, N.A. liabilities accounted for at fair value (including liabilities measured at fair value on a nonrecurring basis) were 14% at both June 30, 2017 and December 31, 2016.

(c) Predominantly reported in principal transactions revenue, except for changes in fair value for consumer & community banking business mortgage loans, lending-related commitments originated with the intent to sell, and mortgage loan purchase commitments, which are reported in mortgage fees and related income.
(d) Realized gains/(losses) on AFS securities, as well as other-than-temporary impairment losses that are recorded in earnings, are reported in securities gains. Unrealized gains/(losses) are reported in OCI. Realized gains/(losses) and foreign exchange hedge accounting adjustments recorded in income on AFS securities were zero for the six months ended June 30, 2017 and 2016, respectively. Unrealized gains/(losses) recorded on AFS securities in OCI were $12 million and $(1) million for the six months ended June 30, 2017 and 2016, respectively.
(e) Changes in fair value for the consumer & community banking business's mortgage servicing rights are reported in mortgage fees and related income.
(f) Loan originations are included in purchases.
(g) Includes financial assets and liabilities that have matured, been partially or fully repaid, impacts of modifications, deconsolidation 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 of the valuation inputs and are assumed to occur at the beginning of the interim reporting period in which they occur.

Level 3 analysis

Consolidated balance sheets changes

Level 3 assets (including assets measured at fair value on a nonrecurring basis) were 0.9% of total JPMorgan Chase Bank, N.A. assets and 4.0% of total assets measured at fair value at June 30, 2017, compared with 1.1% and 4.5%, respectively, at December 31, 2016. The following describes significant changes to level 3 assets since December 31, 2016, for those items measured at fair value on a recurring basis. For further information on changes impacting items measured at fair value on a nonrecurring basis, see Assets and liabilities measured at fair value on a nonrecurring basis on page 20.

Six months ended June 30, 2017

Level 3 assets at June 30, 2017 decreased by $2.2 billion from December 31, 2016, largely due to the following:

- $1.5 billion decrease in trading assets driven by lower levels of interest rate and foreign exchange derivative receivables, predominantly driven by settlements and transfers from level 3 to level 2 as a result of increased observability of certain valuation inputs.

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. For further information on these instruments, see Changes in level 3 recurring fair value measurements rollforward tables on pages 17-19.

Six months ended June 30, 2017

$319 million of net losses on assets and $755 million of net losses on liabilities, none of which were individually significant.

Six months ended June 30, 2016

$1.3 billion of net losses on assets driven by $1.2 billion loss on MSRs. For further details see Note 15.

Assets and liabilities measured at fair value on a nonrecurring basis

The following table presents the assets and liabilities reported on a nonrecurring basis at fair value as of June 30, 2017 and 2016, by major product category and fair value hierarchy.

	Fair value hierarchy			
June 30, 2017 (in millions)	Level 1	Level 2	Level 3	Total fair value
Loans	**$ –**	**$ 292**	**$ 430** [(a)]	**$ 722**
Other assets	**–**	**8**	**244**	**252**
Total assets measured at fair value on a nonrecurring basis	**–**	**300**	**674** [(a)]	**974**
Accounts payable and other liabilities	**–**	**1**	**2**	**3**
Total liabilities measured at fair value on a nonrecurring basis	**$ –**	**$ 1**	**$ 2**	**$ 3**

	Fair value hierarchy			
June 30, 2016 (in millions)	Level 1	Level 2	Level 3	Total fair value
Loans	$ –	$ 248	$ 364	$ 612
Other assets	–	–	91	91
Total assets measured at fair value on a nonrecurring basis	–	248	455	703
Accounts payable and other liabilities	–	2	–	2
Total liabilities measured at fair value on a nonrecurring basis	$ –	$ 2	$ –	$ 2

(a) Of the $674 million in level 3 assets measured at fair value on a nonrecurring basis as of June 30, 2017, $146 million related to residential real estate loans carried at the net realizable value of the underlying collateral (i.e., 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 a broker's price opinion and discounted based upon the JPMorgan Chase Bank, N.A.'s experience with actual liquidation values. These discounts to the broker price opinions ranged from 20% to 48% with a weighted average of 29%.

Nonrecurring fair value changes

The following table presents the total change in value of assets and liabilities for which a fair value adjustment has been included in the Consolidated statements of income for the six months ended June 30, 2017 and 2016, related to financial instruments held at those dates.

	Six months ended June 30,	
(in millions)	**2017**	2016
Loans	**$ (109)**	$ (102)
Other Assets	**(44)**	(23)
Accounts payable and other liabilities	**(1)**	(2)
Total nonrecurring fair value gains/ (losses)	**$ (154)**	$ (127)

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), see Note 15 of JPMorgan Chase Bank, N.A.'s 2016 Annual Financial Statements.

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 June 30, 2017, and December 31, 2016, 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. For additional information regarding the financial instruments within the scope of this disclosure, and the methods and significant assumptions used to estimate their fair value, see Note 4 of JPMorgan Chase Bank, N.A.'s 2016 Annual Financial Statements.

	June 30, 2017					December 31, 2016				
		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	**$ 20.0**	**$ 20.0**	**$ –**	**$ –**	**$ 20.0**	$ 21.2	$ 21.2	$ –	$ –	$ 21.2
Deposits with banks	**454.1**	**413.3**	**40.8**	**–**	**454.1**	388.7	352.4	36.3	–	388.7
Accrued interest and accounts receivable	**50.5**	**–**	**49.7**	**0.1**	**49.8**	40.8	–	40.7	–	40.7
Federal funds sold and securities purchased under resale agreements	**152.3**	**–**	**152.3**	**–**	**152.3**	167.3	–	167.1	0.2	167.3
Securities borrowed	**26.1**	**–**	**26.1**	**–**	**26.1**	32.5	–	32.5	–	32.5
Securities, held-to-maturity	**47.8**	**–**	**48.8**	**–**	**48.8**	50.1	–	50.9	–	50.9
Loans, net of allowance for loan losses[(a)]	**796.9**	**–**	**35.7**	**759.7**	**795.4**	779.2	–	29.3	744.9	774.2
Other	**49.5**	**–**	**40.6**	**8.7**	**49.3**	48.4	–	39.2	9.0	48.2
Financial liabilities										
Deposits	**$ 1,522.0**	**$ –**	**$ 1,522.1**	**$ –**	**$ 1,522.1**	$1,466.2	$ –	$ 1,466.4	$ –	$ 1,466.4
Federal funds purchased and securities loaned or sold under repurchase agreements	**91.0**	**–**	**91.0**	**–**	**91.0**	74.4	–	74.4	–	74.4
Other borrowed funds	**7.0**	**–**	**7.0**	**–**	**7.0**	6.6	–	6.6	–	6.6
Accounts payable and other liabilities	**56.1**	**–**	**53.4**	**2.7**	**56.1**	52.7	–	49.7	3.0	52.7
Beneficial interests issued by consolidated VIEs	**5.1**	**–**	**5.1**	**–**	**5.1**	7.5	–	7.4	–	7.4
Long-term debt and junior subordinated deferrable interest debentures	**84.2**	**–**	**81.6**	**2.5**	**84.1**	92.2	–	90.1	2.0	92.1

(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. For a further discussion of JPMorgan Chase Bank, N.A.'s methodologies for estimating the fair value of loans and lending-related commitments, see Valuation hierarchy on pages 21–24 of JPMorgan Chase Bank, N.A.'s 2016 Annual Financial Statements.

The majority of JPMorgan Chase Bank, N.A.'s lending-related commitments are not carried at fair value on a recurring basis on the Consolidated balance sheets, nor are they actively traded. 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.

	June 30, 2017					December 31, 2016				
		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
Wholesale lending-related commitments	**$ 1.1**	**$ –**	**$ –**	**$ 1.6**	**$ 1.6**	$ 1.1	$ –	$ –	$ 2.1	$ 2.1

(a) Excludes the current carrying values of the guarantee liability and the offsetting asset, each of which are recognized at fair value at the inception of guarantees.

JPMorgan Chase Bank, N.A. does not estimate the fair value of consumer lending-related commitments. In many cases, JPMorgan Chase Bank, N.A. can reduce or cancel these commitments by providing the borrower notice or, in some cases as permitted by law, without notice. For a further discussion of the valuation of lending-related commitments, see page 22 of JPMorgan Chase Bank, N.A.'s 2016 Annual Financial Statements.

Note 4 – Fair value option

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, see Note 5 of JPMorgan Chase Bank, N.A.'s 2016 Annual Financial Statements.

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 six months ended June 30, 2017 and 2016 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.

	Six months ended June 30,					
	2017			2016		
(in millions)	Principal transactions	All other income	Total changes in fair value recorded	Principal transactions	All other income	Total changes in fair value recorded
Federal funds sold and securities purchased under resale agreements	**$ 63**	**$ –**	**$ 63**	$ (6)	$ –	$ (6)
Securities borrowed	**90**	**–**	**90**	1	–	1
Trading assets:						
Debt and equity instruments, excluding loans	**696**	**2** [(c)]	**698**	(80)	–	(80)
Loans reported as trading assets:						
Changes in instrument-specific credit risk	**225**	**15** [(c)]	**240**	90	14 [(c)]	104
Other changes in fair value	**83**	**352** [(c)]	**435**	177	523 [(c)]	700
Loans:						
Changes in instrument-specific credit risk	**(1)**	**–**	**(1)**	13	–	13
Other changes in fair value	**1**	**3**	**4**	4	–	4
Other assets	**–**	**3** [(d)]	**3**	(6)	1 [(d)]	(5)
Deposits[(a)]	**(249)**	**–**	**(249)**	(600)	–	(600)
Federal funds purchased and securities loaned or sold under repurchase agreements	**(85)**	**–**	**(85)**	(16)	–	(16)
Other borrowed funds[(a)]	**(633)**	**–**	**(633)**	237	–	237
Trading liabilities	**(1)**	**–**	**(1)**	2	–	2
Beneficial interests issued by consolidated VIEs	**–**	**–**	**–**	–	–	–
Other liabilities	**–**	**–**	**–**	–	–	–
Long-term debt[(a)(b)]	**(486)**	**–**	**(486)**	(58)	–	(58)

(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 risk recorded in principal transaction revenue were not material for the six months ended June 30, 2017 and 2016, 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.

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 June 30, 2017, and December 31, 2016, for loans, long-term debt and long-term beneficial interests for which the fair value option has been elected.

	June 30, 2017			December 31, 2016		
(in millions)	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	**$ 2,444**	**$ 900**	**$ (1,544)**	$ 1,986	$ 477	$ (1,509)
Loans	**39**	**—**	**(39)**	—	—	—
Subtotal	**2,483**	**900**	**(1,583)**	1,986	477	(1,509)
All other performing loans						
Loans reported as trading assets	**34,934**	**34,610**	**(324)**	33,736	32,606	(1,130)
Loans	**1,995**	**1,978**	**(17)**	2,259	2,228	(31)
Total loans	**$ 39,412**	**$ 37,488**	**$ (1,924)**	$ 37,981	$ 35,311	$ (2,670)
Long-term debt						
Principal-protected debt	**$ 5,709** (c)	**$ 5,460**	**$ (249)**	$ 3,577 (c)	$ 3,280	$ (297)
Nonprincipal-protected debt[(b)]	**NA**	**13,060**	**NA**	NA	11,656	NA
Total long-term debt	**NA**	**$ 18,520**	**NA**	NA	$ 14,936	NA
Long-term beneficial interests						
Nonprincipal-protected debt[(b)]	**NA**	**$ —**	**NA**	NA	$ —	NA
Total long-term beneficial interests	**NA**	**$ —**	**NA**	NA	$ —	NA

(a) There were no performing loans that were ninety days or more past due as of June 30, 2017, and December 31, 2016, respectively.
(b) Remaining contractual principal is not applicable to nonprincipal-protected notes. Unlike principal-protected structured notes, for which JPMorgan Chase Bank, N.A. is obligated to return a stated amount of principal at the maturity of the note, nonprincipal-protected structured notes do not obligate JPMorgan Chase Bank, N.A. to return a stated amount of principal at maturity, but 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 JPMorgan Chase Bank, N.A. as issuer for both nonprincipal-protected and principal protected notes.
(c) Where JPMorgan Chase Bank, N.A. 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 JPMorgan Chase Bank, N.A.'s next call date.

At June 30, 2017, and December 31, 2016, the contractual amount of lending-related commitments for which the fair value option was elected was $4.5 billion and $4.6 billion, with a corresponding fair value of $(110) million and $(131) million, respectively. For further information regarding off-balance sheet lending-related financial instruments, see Note 27 of JPMorgan Chase Bank, N.A.'s 2016 Annual Report, and Note 20 of these Consolidated Financial Statements.

Note 5 – Derivative instruments

JPMorgan Chase Bank, N.A. makes markets in derivatives for clients and also uses derivatives to hedge or manage its own risk exposures. For a further discussion of JPMorgan Chase Bank, N.A.'s use of and accounting policies regarding derivative instruments, see Note 7 of JPMorgan Chase Bank, N.A.'s 2016 Annual Financial Statements.

JPMorgan Chase Bank, N.A.'s disclosures are based on the accounting treatment and purpose of these derivatives. A limited number of JPMorgan Chase Bank, N.A.'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 JPMorgan Chase Bank, N.A.'s market-making businesses or for other purposes.

The following table outlines JPMorgan Chase Bank, N.A.'s primary uses of derivatives and the related hedge accounting designation or disclosure category.

Type of Derivative	Use of Derivative	Designation and disclosure	Page reference
Manage specifically identified risk exposures in qualifying hedge accounting relationships:			
◦ Interest rate	Hedge fixed rate assets and liabilities	Fair value hedge	30
◦ Interest rate	Hedge floating-rate assets and liabilities	Cash flow hedge	31
◦ Foreign exchange	Hedge foreign currency-denominated assets and liabilities	Fair value hedge	30
◦ Foreign exchange	Hedge forecasted revenue and expense	Cash flow hedge	31
◦ Foreign exchange	Hedge the value of JPMorgan Chase Bank, N.A.'s investments in non-U.S. subsidiaries	Net investment hedge	32
◦ Commodity	Hedge commodity inventory	Fair value hedge	30
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	32
◦ Credit	Manage the credit risk of wholesale lending exposures	Specified risk management	32
◦ Commodity	Manage the risk of certain commodities-related contracts and investments	Specified risk management	32
◦ Interest rate and foreign exchange	Manage the risk of certain other specified assets and liabilities	Specified risk management	32
Market-making derivatives and other activities:			
◦ Various	Market-making and related risk management	Market-making and other	32
◦ Various	Other derivatives	Market-making and other	32

Notional amount of derivative contracts
The following table summarizes the notional amount of derivative contracts outstanding as of June 30, 2017, and December 31, 2016.

	Notional amounts[b]	
(in billions)	**June 30, 2017**	December 31, 2016
Interest rate contracts		
Swaps	**$ 22,422**	$ 22,261
Futures and forwards	**5,372**	4,917
Written options	**3,619**	3,101
Purchased options	**4,062**	3,514
Total interest rate contracts	**35,475**	33,793
Credit derivatives[a]	**1,799**	2,010
Foreign exchange contracts		
Cross-currency swaps	**3,852**	3,379
Spot, futures and forwards	**6,416**	5,385
Written options	**825**	735
Purchased options	**821**	721
Total foreign exchange contracts	**11,914**	10,220
Equity contracts		
Swaps	**410**	360
Futures and forwards	**78**	47
Written options	**577**	442
Purchased options	**550**	415
Total equity contracts	**1,615**	1,264
Commodity contracts		
Swaps	**505**	448
Spot, futures and forwards	**148**	131
Written options	**98**	98
Purchased options	**102**	109
Total commodity contracts	**853**	786
Total derivative notional amounts	**$ 51,656**	$ 48,073

(a) For more information on volumes and types of credit derivative contracts, see the Credit derivatives discussion on page 33.
(b) Represents the sum of gross long and gross short notional derivative contracts with third parties and JPMorgan Chase affiliates. For additional information on related party derivatives, see Note 17.

While the notional amounts disclosed above give an indication of the volume of JPMorgan Chase Bank, N.A.'s derivatives activity, the notional amounts significantly exceed, in JPMorgan Chase Bank, N.A.'s view, the possible losses that could arise from such transactions. For most derivative transactions, 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 tables below include derivative receivables and payables with affiliates on a net basis. See Note 17 for information regarding our derivative activities with affiliates.

The following table summarizes information on derivative receivables and payables (before and after netting adjustments) that are reflected on JPMorgan Chase Bank, N.A.'s Consolidated balance sheets as of June 30, 2017, and December 31, 2016, 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			
June 30, 2017 (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	**$ 526,413**	**$ 1,178**	**$ 527,591**	**$ 26,693**	**$ 491,196**	**$ 947**	**$ 492,143**	**$ 9,087**
Credit	**25,275**	**–**	**25,275**	**928**	**25,512**	**–**	**25,512**	**1,463**
Foreign exchange	**175,723**	**364**	**176,087**	**16,639**	**178,159**	**1,082**	**179,241**	**14,370**
Equity	**55,405**	**–**	**55,405**	**6,973**	**60,232**	**–**	**60,232**	**9,698**
Commodity	**32,218**	**–**	**32,218**	**5,877**	**33,039**	**–**	**33,039**	**7,022**
Total fair value of trading assets and liabilities	**$ 815,034**	**$ 1,542**	**$ 816,576**	**$ 57,110**	**$ 788,138**	**$ 2,029**	**$ 790,167**	**$ 41,640**

	Gross derivative receivables				Gross derivative payables			
December 31, 2016 (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	$ 608,615	$ 1,725	$ 610,340	$ 28,020	$ 575,626	$ 1,520	$ 577,146	$ 10,545
Credit	29,149	–	29,149	1,233	28,336	–	28,336	1,298
Foreign exchange	234,301	1,297	235,598	23,319	235,409	490	235,899	20,466
Equity	50,905	–	50,905	5,026	54,839	–	54,839	8,532
Commodity	35,287	3	35,290	6,320	35,268	1	35,269	7,794
Total fair value of trading assets and liabilities	$ 958,257	$ 3,025	$ 961,282	$ 63,918	$ 929,478	$ 2,011	$ 931,489	$ 48,635

(a) Balances exclude structured notes for which the fair value option has been elected. See Note 4 for further information.
(b) As permitted under U.S. GAAP, JPMorgan Chase Bank, N.A. 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 June 30, 2017, and December 31, 2016, 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 JPMorgan Chase Bank, N.A. 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, JPMorgan Chase Bank, N.A. receives and transfers additional collateral (financial instruments and cash). These amounts mitigate counterparty credit risk associated with JPMorgan Chase Bank, N.A.'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 Group of Seven Nations ("G7") government bonds) 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.

	June 30, 2017			December 31, 2016		
(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")	**$ 325,005**	**$ (303,492)**	**$ 21,513**	$ 368,159	$ (347,647)	$ 20,512
OTC–cleared	**197,359**	**(197,297)**	**62**	234,525	(234,446)	79
Exchange-traded[(a)]	**167**	**(108)**	**59**	241	(227)	14
Total interest rate contracts	**522,531**	**(500,897)**	**21,634**	602,925	(582,320)	20,605
Credit contracts:						
OTC	**17,558**	**(17,324)**	**234**	22,638	(22,177)	461
OTC–cleared	**7,088**	**(7,023)**	**65**	5,746	(5,739)	7
Total credit contracts	**24,646**	**(24,347)**	**299**	28,384	(27,916)	468
Foreign exchange contracts:						
OTC	**171,242**	**(158,015)**	**13,227**	228,427	(211,087)	17,340
OTC–cleared	**1,507**	**(1,424)**	**83**	1,238	(1,165)	73
Exchange-traded[(a)]	**95**	**(9)**	**86**	104	(27)	77
Total foreign exchange contracts	**172,844**	**(159,448)**	**13,396**	229,769	(212,279)	17,490
Equity contracts:						
OTC	**40,819**	**(39,125)**	**1,694**	39,097	(38,298)	799
OTC–cleared	**—**	**—**	**—**	—	—	—
Exchange-traded[(a)]	**11,587**	**(9,307)**	**2,280**	9,075	(7,581)	1,494
Total equity contracts	**52,406**	**(48,432)**	**3,974**	48,172	(45,879)	2,293
Commodity contracts:						
OTC	**26,710**	**(21,628)**	**5,082**	28,255	(22,206)	6,049
OTC–cleared	**—**	**—**	**—**	—	—	—
Exchange-traded[(a)]	**5,165**	**(4,714)**	**451**	6,792	(6,764)	28
Total commodity contracts	**31,875**	**(26,342)**	**5,533**	35,047	(28,970)	6,077
Derivative receivables with appropriate legal opinion	**804,302**	**(759,466)** [(b)]	**44,836**	944,297	(897,364) [(b)]	46,933
Derivative receivables where an appropriate legal opinion has not been either sought or obtained	**12,274**		**12,274**	16,985		16,985
Total derivative receivables recognized on the Consolidated balance sheets	**$ 816,576**		**$ 57,110**	$ 961,282		$ 63,918
Collateral not nettable on the Consolidated balance sheets[(c)(d)]			**(15,316)**			(18,594)
Net amounts			**$ 41,794**			$ 45,324

(in millions)	June 30, 2017 Gross derivative payables	June 30, 2017 Amounts netted on the Consolidated balance sheets	June 30, 2017 Net derivative payables	December 31, 2016 Gross derivative payables	December 31, 2016 Amounts netted on the Consolidated balance sheets	December 31, 2016 Net derivative payables
U.S. GAAP nettable derivative payables						
Interest rate contracts:						
OTC	**$ 297,021**	**$ (289,935)**	**$ 7,086**	$ 345,931	$ (336,778)	$ 9,153
OTC-cleared	**193,154**	**(193,011)**	**143**	229,649	(229,648)	1
Exchange-traded[(a)]	**127**	**(111)**	**16**	196	(175)	21
Total interest rate contracts	**490,302**	**(483,057)**	**7,245**	575,776	(566,601)	9,175
Credit contracts:						
OTC	**17,691**	**(17,081)**	**610**	21,944	(21,397)	547
OTC-cleared	**6,966**	**(6,966)**	**—**	5,641	(5,641)	—
Total credit contracts	**24,657**	**(24,047)**	**610**	27,585	(27,038)	547
Foreign exchange contracts:						
OTC	**173,649**	**(163,494)**	**10,155**	229,290	(214,266)	15,024
OTC-cleared	**1,370**	**(1,369)**	**1**	1,158	(1,158)	—
Exchange-traded[(a)]	**87**	**(8)**	**79**	328	(9)	319
Total foreign exchange contracts	**175,106**	**(164,871)**	**10,235**	230,776	(215,433)	15,343
Equity contracts:						
OTC	**45,774**	**(41,228)**	**4,546**	43,013	(38,743)	4,270
OTC-cleared	**—**	**—**	**—**	—	—	—
Exchange-traded[(a)]	**10,106**	**(9,307)**	**799**	8,154	(7,564)	590
Total equity contracts	**55,880**	**(50,535)**	**5,345**	51,167	(46,307)	4,860
Commodity contracts:						
OTC	**27,911**	**(21,305)**	**6,606**	27,729	(20,624)	7,105
OTC-cleared	**—**	**—**	**—**	—	—	—
Exchange-traded[(a)]	**4,797**	**(4,712)**	**85**	7,089	(6,851)	238
Total commodity contracts	**32,708**	**(26,017)**	**6,691**	34,818	(27,475)	7,343
Derivative payables with appropriate legal opinions	**778,653**	**(748,527)** [(b)]	**30,126**	920,122	(882,854) [(b)]	37,268
Derivative payables where an appropriate legal opinion has not been either sought or obtained	**11,514**		**11,514**	11,367		11,367
Total derivative payables recognized on the Consolidated balance sheets	**$ 790,167**		**$ 41,640**	$ 931,489		$ 48,635
Collateral not nettable on the Consolidated balance sheets[(c)(d)(e)]			**(5,701)**			(8,926)
Net amounts			**$ 35,939**			$ 39,709

(a) Exchange-traded derivative balances that relate to futures contracts are settled daily.

(b) Net derivatives receivable included cash collateral netted of $59.3 billion and $71.4 billion at June 30, 2017 and December 31, 2016, respectively. Net derivatives payable included cash collateral netted of $48.3 billion and $56.9 billion related to OTC and OTC-cleared derivatives at June 30, 2017, and December 31, 2016, respectively.

(c) Excludes all collateral related to derivative instruments where an appropriate legal opinion has not been either sought or obtained.

(d) 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.

(e) Derivative payables collateral relates only to OTC and OTC-cleared derivative instruments. Amounts exclude collateral transferred related to exchange-traded derivative instruments.

Liquidity risk and credit-related contingent features

For a more detailed discussion of liquidity risk and credit-related contingent features related to JPMorgan Chase Bank, N.A.'s derivative contracts, see Note 7 of JPMorgan Chase Bank, N.A.'s 2016 Annual Financial Statements.

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 JPMorgan Chase Bank, N.A. has posted in the normal course of business, at June 30, 2017, and December 31, 2016.

OTC and OTC-cleared derivative payables containing downgrade triggers

(in millions)	**June 30, 2017**	December 31, 2016
Aggregate fair value of net derivative payables	**$ 12,392**	$ 21,200
Collateral posted	**10,091**	19,195

The following table shows the impact of a single-notch and two-notch downgrade of the long-term issuer ratings of JPMorgan Chase Bank, N.A. and its subsidiaries at June 30, 2017, and December 31, 2016, 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

	June 30, 2017		December 31, 2016	
(in millions)	Single-notch downgrade	Two-notch downgrade	Single-notch downgrade	Two-notch downgrade
Amount of additional collateral to be posted upon downgrade[a]	**$ 104**	**$ 1,994**	$ 560	$ 2,489
Amount required to settle contracts with termination triggers upon downgrade[b]	**247**	**751**	606	1,049

(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 JPMorgan Chase Bank, N.A. 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. JPMorgan Chase Bank, N.A. generally accounts for such transfers as collateralized financing transactions as described in Note 11, but in limited circumstances they may qualify to be accounted for as a sale and a derivative under U.S. GAAP. There were no such transfers accounted for as a sale where the associated derivative was outstanding at June 30, 2017, and such transfers at December 31, 2016 were not material.

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. See Note 17 for information regarding our derivative activities with affiliates.

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 six months ended June 30, 2017 and 2016, respectively. JPMorgan Chase Bank, N.A. includes gains/(losses) on the hedging derivative and the related hedged item in the same line item in the Consolidated statements of income.

Six months ended June 30, 2017 (in millions)	Gains/(losses) recorded in income			Income statement impact due to:	
	Derivatives	Hedged items	Total income statement impact	Hedge ineffectiveness[e]	Excluded components[f]
Contract type					
Interest rate[a][b]	**$ (240)**	**$ 139**	**$ (101)**	**$ 16**	**$ (117)**
Foreign exchange[c]	**(2,086)**	**2,243**	**157**	**—**	**157**
Commodity[d]	**(43)**	**51**	**8**	**—**	**8**
Total	**$ (2,369)**	**$ 2,433**	**$ 64**	**$ 16**	**$ 48**

Six months ended June 30, 2016 (in millions)	Gains/(losses) recorded in income			Income statement impact due to:	
	Derivatives	Hedged items	Total income statement impact	Hedge ineffectiveness[e]	Excluded components[f]
Contract type					
Interest rate[a][b]	$ (2,270)	$ 2,123	$ (147)	$ (7)	$ (140)
Foreign exchange[c]	200	(83)	117	—	117
Commodity[d]	(32)	32	—	—	—
Total	$ (2,102)	$ 2,072	$ (30)	$ (7)	$ (23)

(a) Primarily consists of hedges of the benchmark (e.g., London Interbank Offered Rate ("LIBOR")) interest rate risk of fixed-rate 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.

(c) Primarily consists of hedges of the foreign currency risk of 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, 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) Hedge ineffectiveness is the amount by which the gain or loss on the designated derivative instrument does not exactly offset the gain or loss on the hedged item attributable to the hedged risk.

(f) 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 and time values.

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 six months ended June 30, 2017 and 2016,respectively. JPMorgan Chase Bank, N.A. includes the gain/(loss) on the hedging derivative and the change in cash flows on the hedged item in the same line item in the Consolidated statements of income.

	Gains/(losses) recorded in income and other comprehensive income/(loss)				
Six months ended June 30, 2017 (in millions)	Derivatives – effective portion reclassified from AOCI to income	Hedge ineffectiveness recorded directly in income[c]	Total income statement impact	Derivatives – effective portion recorded in OCI	Total change in OCI for period
Contract type					
Interest rate[a]	**$ (17)**	**$ –**	**$ (17)**	**$ 12**	**$ 29**
Foreign exchange[b]	**(134)**	**–**	**(134)**	**71**	**205**
Total	**$ (151)**	**$ –**	**$ (151)**	**$ 83**	**$ 234**

	Gains/(losses) recorded in income and other comprehensive income/(loss)				
Six months ended June 30, 2016 (in millions)	Derivatives – effective portion reclassified from AOCI to income	Hedge ineffectiveness recorded directly in income[c]	Total income statement impact	Derivatives – effective portion recorded in OCI	Total change in OCI for period
Contract type					
Interest rate[a]	$ (40)	$ –	$ (40)	$ (100)	$ (60)
Foreign exchange[b]	(63)	–	(63)	(254)	(191)
Total	$ (103)	$ –	$ (103)	$ (354)	$ (251)

(a) Primarily consists of benchmark interest rate 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.

(c) Hedge ineffectiveness is the amount by which the cumulative gain or loss on the designated derivative instrument exceeds the present value of the cumulative expected change in cash flows on the hedged item attributable to the hedged risk.

JPMorgan Chase Bank, N.A. did not experience any forecasted transactions that failed to occur for the six months ended June 30, 2017 and 2016.

Over the next 12 months, JPMorgan Chase Bank, N.A. expects that approximately $22 million (after-tax) of net gains recorded in AOCI at June 30, 2017, related to cash flow hedges will be recognized in income. For terminated cash flow hedges, the maximum length of time over which forecasted transactions are remaining is approximately 6 years. For open cash flow hedges, the maximum length of time over which forecasted transactions are hedged is approximately 1 year. JPMorgan Chase Bank, N.A.'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 six months ended June 30, 2017 and 2016.

	Gains/(losses) recorded in income and other comprehensive income/(loss)			
	2017		2016	
Six months ended June 30 (in millions)	Excluded components recorded directly in income[(a)]	Effective portion recorded in OCI	Excluded components recorded directly in income[(a)]	Effective portion recorded in OCI
Foreign exchange derivatives	**$ (107)**	**$ (614)**	$ (120)	$ (721)

(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. Amounts related to excluded components are recorded in other income. JPMorgan Chase Bank, N.A. measures the ineffectiveness of net investment hedge accounting relationships based on changes in spot foreign currency rates, and therefore there was no significant ineffectiveness for net investment hedge accounting relationships during the six months ended June 30, 2017 and 2016.

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, foreign currency-denominated assets and liabilities, and commodities-related contracts and investments.

	Derivatives gains/(losses) recorded in income	
	Six months ended June 30,	
(in millions)	**2017**	2016
Contract type		
Interest rate[(a)]	**$ 221**	$ 1,644
Credit[(b)]	**(52)**	(161)
Foreign exchange[(c)]	**(38)**	5
Total	**$ 131**	$ 1,488

(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 JPMorgan Chase Bank, N.A.'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.

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

JPMorgan Chase Bank, N.A. 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. See Note 6 for information on principal transactions revenue.

Credit derivatives

For a more detailed discussion of credit derivatives, see Note 7 of JPMorgan Chase Bank, N.A.'s 2016 Annual Financial Statements. JPMorgan Chase Bank, N.A. 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 JPMorgan Chase Bank, N.A.'s view, the risks associated with such derivatives.

Total credit derivatives and credit-related notes

	Maximum payout/Notional amount			
June 30, 2017 (in millions)	Protection sold	Protection purchased with identical underlyings[b]	Net protection (sold)/purchased[c]	Other protection purchased[d]
Credit derivatives				
Credit default swaps	**$ (834,105)**	**$ 851,619**	**$ 17,514**	**$ 9,664**
Other credit derivatives[a]	**(46,396)**	**44,431**	**(1,965)**	**13,091**
Total credit derivatives	**(880,501)**	**896,050**	**15,549**	**22,755**
Credit-related notes	**(37)**	**–**	**(37)**	**5,455**
Total	**$ (880,538)**	**$ 896,050**	**$ 15,512**	**$ 28,210**

	Maximum payout/Notional amount			
December 31, 2016 (in millions)	Protection sold	Protection purchased with identical underlyings[b]	Net protection (sold)/purchased[c]	Other protection purchased[d]
Credit derivatives				
Credit default swaps	$ (950,474)	$ 962,598	$ 12,123	$ 7,935
Other credit derivatives[a]	(37,415)	38,671	1,256	13,179
Total credit derivatives	(987,889)	1,001,269	13,379	21,114
Credit-related notes	(36)	–	(36)	4,113
Total	$ (987,925)	$ 1,001,269	$ 13,343	$ 25,227

(a) Other credit derivatives largely consists of credit swap options.
(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 JPMorgan Chase Bank, N.A. on referenced instruments (single-name, portfolio or index) where JPMorgan Chase Bank, N.A. 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 June 30, 2017, and December 31, 2016, where JPMorgan Chase Bank, N.A. 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 Bank, N.A. is the purchaser of protection are comparable to the profile reflected below.

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

June 30, 2017 (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	**$ (234,908)**	**$ (316,304)**	**$ (33,556)**	**$ (584,768)**	**$ 8,841**	**$ (1,128)**	**$ 7,713**
Noninvestment-grade	**(104,208)**	**(174,745)**	**(16,817)**	**(295,770)**	**8,748**	**(5,886)**	**2,862**
Total	**$ (339,116)**	**$ (491,049)**	**$ (50,373)**	**$ (880,538)**	**$ 17,589**	**$ (7,014)**	**$ 10,575**

December 31, 2016 (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	$ (274,489)	$ (383,580)	$ (34,440)	$ (692,509)	$ 7,838	$ (2,981)	$ 4,857
Noninvestment-grade	(107,933)	(170,021)	(17,462)	(295,416)	8,175	(8,255)	(80)
Total	$ (382,422)	$ (553,601)	$ (51,902)	$ (987,925)	$ 16,013	$ (11,236)	$ 4,777

(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 JPMorgan Chase Bank, N.A.

Note 6 – Noninterest revenue and noninterest expense

Noninterest revenue

For a discussion of the components of and accounting policies for JPMorgan Chase Bank, N.A.'s noninterest revenue, see Note 8 of JPMorgan Chase Bank, N.A.'s 2016 Annual Financial Statements.

Investment banking fees

The following table presents the components of investment banking fees.

	Six months ended June 30,	
(in millions)	**2017**	2016
Underwriting		
Equity	**$ 278**	$ 192
Debt	**1,103**	642
Total underwriting	**1,381**	834
Advisory	**341**	314
Total investment banking fees	**$ 1,722**	$ 1,148

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 JPMorgan Chase Bank, N.A.'s client-driven market-making activities. See Note 7 for further information on interest income and interest expense. Trading revenue is presented primarily by instrument type. JPMorgan Chase Bank, N.A.'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.

	Six months ended June 30,	
(in millions)	**2017**	2016
Trading revenue by instrument type		
Interest rate	**$ 1,793**	$ 1,526
Credit	**395**	585
Foreign exchange	**1,694**	1,306
Equity	**1,534**	1,306
Commodity	**201**	137
Total trading revenue	**5,617**	4,860
Private equity gains	**2**	89
Principal transactions	**$ 5,619**	$ 4,949

Lending- and deposit-related fees

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

	Six months ended June 30,	
(in millions)	**2017**	2016
Lending-related fees	**$ 548**	$ 549
Deposit-related fees	**2,386**	2,259
Total lending- and deposit-related fees	**$ 2,934**	$ 2,808

Asset management, administration and commissions

The following table presents the components of JPMorgan Chase Bank, N.A. asset management, administration and commissions.

	Six months ended June 30,	
(in millions)	**2017**	2016
Asset management fees		
Investment management fees[(a)]	**$ 1,004**	$ 999
All other asset management fees[(b)]	**25**	31
Total asset management fees	**1,029**	1,030
Total administration fees[(c)]	**986**	966
Commission and other fees		
Brokerage commissions	**555**	508
All other commissions and fees[(d)(e)]	**3,176**	2,996
Total commissions and fees	**3,731**	3,504
Total asset management, administration and commissions	**$ 5,746**	$ 5,500

(a) Represents fees earned from managing assets on behalf of JPMorgan Chase Bank, N.A.'s clients, including investors in JPMorgan Chase Bank, N.A.-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.
(d) Includes fees earned by JPMorgan Chase Bank, N.A. for shared services provided to related party affiliates of $2.2 billion and $2.0 billion for the six months ended June 30, 2017 and 2016, respectively.
(e) The prior period amounts have been revised to conform with the current presentation.

Other income

Other income on JPMorgan Chase Bank, N.A.'s Consolidated statements of income included the following:

	Six months ended June 30,	
(in millions)	**2017**	2016
Operating lease income	**$ 1,693**	$ 1,259

Other income also included a legal benefit of $645 million recorded in the corporate business related to a settlement with the FDIC receivership for Washington Mutual and with Deutsche Bank as trustee to certain Washington Mutual trusts.

Noninterest expense

Other expense

Other expense on JPMorgan Chase Bank, N.A.'s Consolidated statements of income included the following:

	Six months ended June 30,	
(in millions)	**2017**	2016
Legal expense/(benefit)	**$ (87)**	$ (473)
FDIC-related expense	**708**	522

Note 7 – Interest income and Interest expense

For a description of JPMorgan Chase Bank, N.A.'s accounting policies regarding interest income and interest expense, see Note 9 of JPMorgan Chase Bank, N.A.'s 2016 Annual Financial Statements.

The following table presents the components of interest income and interest expense:

(in millions)	Six months ended June 30, 2017	2016
Interest income		
Loans[(a)]	**$ 14,538**	$ 12,848
Taxable securities	**2,832**	2,811
Nontaxable securities[(b)]	**862**	815
Total securities	**3,694**	3,626
Trading assets	**2,254**	2,218
Federal funds sold and securities purchased under resale agreements	**538**	702
Securities borrowed[(c)]	**21**	(12)
Deposits with banks	**1,670**	850
Other assets	**197**	115
Total interest income	**22,912**	20,347
Interest expense		
Interest-bearing deposits	**1,504**	791
Federal funds purchased and securities loaned or sold under repurchase agreements	**150**	236
Trading liabilities - debt, short-term and other liabilities	**674**	679
Long-term debt	**625**	537
Beneficial interests issued by consolidated VIEs	**51**	49
Total interest expense	**3,004**	2,292
Net interest income	**19,908**	18,055
Provision for credit losses	**869**	1,877
Net interest income after provision for credit losses	**$ 19,039**	$ 16,178

(a) Includes the amortization of purchase price discounts or premiums, as well as net deferred loan fees or costs.
(b) Represents securities which are tax-exempt for U.S. federal income tax purposes.
(c) Negative interest income for 2016 is related to client-driven demand for certain securities combined with the impact of low interest rates. This is matched book activity and the negative interest expense on the corresponding securities loaned is recognized in interest expense.

Note 8 – Pension and other postretirement employee benefit plans

For a discussion of JPMorgan Chase Bank, N.A.'s pension and OPEB plans, see Note 10 of JPMorgan Chase Bank, N.A.'s 2016 Annual Financial Statements.

The following table presents the components of net periodic benefit costs reported in the Consolidated statements of income for JPMorgan Chase Bank, N.A.'s significant defined benefit pension and defined contribution plans.

	Pension plans			
	U.S.		Non-U.S.	
Six months ended June 30, (in millions)	**2017**	2016	**2017**	2016
Components of net periodic benefit cost				
Benefits earned during the period	**$ 1**	$ 1	**$ 14**	$ 18
Interest cost on benefit obligations	**2**	2	**39**	50
Expected return on plan assets	**—**	—	**(67)**	(70)
Amortization:				
Net (gain)/loss	**2**	2	**14**	10
Prior service cost/(credit)	**—**	—	**(1)**	(1)
Settlement (gain)/loss	**—**	—	**(3)**	—
Net periodic defined benefit cost	**5**	5	**(4)**	7
Other defined benefit pension plans[(a)]	**6**	6	**—**	2
Total defined benefit plans	**11**	11	**(4)**	9
Total defined contribution plans	**189**	193	**142**	144
Total pension and OPEB cost included in compensation expense	**$200**	$204	**$138**	$153

(a) Includes various defined benefit pension plans which are individually immaterial.

The following table presents the fair values of plan assets for the material non-U.S. defined benefit pension plans:

(in billions)	June 30, 2017	December 31, 2016
Fair value of plan assets		
Material non-U.S. defined benefit pension plans	**$ 3.7**	$ 3.4

See Note 18 for further information on unrecognized amounts (i.e., net (gain)/loss and prior service costs/(credit)) reflected in AOCI for the six month periods ended June 30, 2017 and 2016.

JPMorgan Chase charged JPMorgan Chase Bank, N.A. $98 million and $90 million for the six months ended June 30, 2017 and 2016, respectively, for its share of the U.S. qualified defined benefit pension plan expense. JPMorgan Chase charged JPMorgan Chase Bank, N.A. $0.1 million for both the six months ended June 30, 2017 and 2016, for its share of the U.S. OPEB plan expense.

Consolidated disclosures of information about the pension and OPEB plans of JPMorgan Chase are included in Note 9 of JPMorgan Chase's 2016 Annual Report on Form 10-K and in Note 7 of JPMorgan Chase's Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2017.

Note 9 – Employee stock-based incentives

Certain employees of JPMorgan Chase Bank, N.A. participate in JPMorgan Chase's long-term stock-based incentive plans, which provide grants of common stock-based awards, including stock options, stock appreciation rights ("SARs"), restricted stock units ("RSUs") and performance share units ("PSUs"). For a discussion of the accounting policies and other information relating to employee stock-based incentives, see Note 11 of JPMorgan Chase Bank, N.A.'s 2016 Annual Financial Statements and Note 10 of JPMorgan Chase's 2016 Annual Report on Form 10-K.

JPMorgan Chase Bank, N.A. recognized the following compensation expense related to JPMorgan Chase's various employee stock-based incentive plans in its Consolidated statements of income.

	Six months ended June 30,	
(in millions)	**2017**	2016
Cost of prior grants of RSUs, SARs and PSUs that are amortized over their applicable vesting periods	**$ 419**	$ 363
Accrual of estimated costs of stock-based awards to be granted in future periods including those to full-career eligible employees	**352**	324
Total compensation expense related to employee stock-based incentive plans	**$ 771**	$ 687

During the six month period ended June 30, 2017, in connection with its annual incentive grant for the 2016 performance year, JPMorgan Chase granted employees of JPMorgan Chase Bank, N.A. 16 million RSUs and 675 thousand PSUs, all with a weighted-average grant date fair value of $84.25.

Note 10 – Securities

Securities are classified as trading, AFS or HTM. Securities classified as trading assets are discussed in Note 3. Predominantly all of JPMorgan Chase Bank, N.A.'s AFS and HTM securities are held within the investment securities portfolio in connection with JPMorgan Chase Bank, N.A.'s asset-liability management objectives. At June 30, 2017, 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). For additional information regarding the investment securities portfolio, see Note 13 of JPMorgan Chase Bank, N.A.'s 2016 Annual Financial Statements.

The amortized costs and estimated fair values of the investment securities portfolio were as follows for the dates indicated.

	June 30, 2017				December 31, 2016			
(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 debt securities								
Mortgage-backed securities:								
U.S. government agencies[(a)]	**$ 67,253**	**$ 1,053**	**$ 389**	**$ 67,917**	$ 63,367	$ 1,112	$ 474	$ 64,005
Residential:								
U.S.[(b)]	**9,418**	**193**	**15**	**9,596**	8,171	100	28	8,243
Non-U.S.	**4,134**	**149**	**1**	**4,282**	6,049	158	7	6,200
Commercial	**6,184**	**99**	**6**	**6,277**	8,602	108	19	8,691
Total mortgage-backed securities	**86,989**	**1,494**	**411**	**88,072**	86,189	1,478	528	87,139
U.S. Treasury and government agencies[(a)]	**28,247**	**192**	**281**	**28,158**	44,822	75	796	44,101
Obligations of U.S. states and municipalities	**28,531**	**1,708**	**66**	**30,173**	27,769	1,311	183	28,897
Certificates of deposit	**57**	**—**	**—**	**57**	106	—	—	106
Non-U.S. government debt securities	**30,007**	**591**	**27**	**30,571**	34,497	836	45	35,288
Corporate debt securities	**4,047**	**91**	**6**	**4,132**	4,916	64	22	4,958
Asset-backed securities:								
Collateralized loan obligations	**24,285**	**47**	**5**	**24,327**	27,352	75	26	27,401
Other	**6,422**	**74**	**13**	**6,483**	6,913	59	46	6,926
Total available-for-sale debt securities	**208,585**	**4,197**	**809**	**211,973**	232,564	3,898	1,646	234,816
Available-for-sale equity securities	**39**	**—**	**—**	**39**	42	12	—	54
Total available-for-sale securities	**208,624**	**4,197**	**809**	**212,012**	232,606	3,910	1,646	234,870
Held-to-maturity debt securities								
Mortgage-backed securities:								
U.S. government agencies[(c)]	**27,558**	**655**	**35**	**28,178**	29,910	638	37	30,511
Commercial	**5,766**	**2**	**70**	**5,698**	5,783	—	129	5,654
Total mortgage-backed securities	**33,324**	**657**	**105**	**33,876**	35,693	638	166	36,165
Obligations of U.S. states and municipalities	**14,437**	**556**	**73**	**14,920**	14,475	374	125	14,724
Total held-to-maturity debt securities	**47,761**	**1,213**	**178**	**48,796**	50,168	1,012	291	50,889
Total securities	**$ 256,385**	**$ 5,410**	**$ 987**	**$ 260,808**	$ 282,774	$ 4,922	$ 1,937	$ 285,759

(a) Included total U.S. government-sponsored enterprise obligations with fair values of $51.3 billion and $45.8 billion at June 30, 2017, and December 31, 2016, respectively, which were predominantly mortgage-related.

(b) Prior period amounts have been revised to conform with current period presentation.

(c) Included total U.S. government-sponsored enterprise obligations with an amortized cost of $23.7 billion and $25.6 billion at June 30, 2017, and December 31, 2016, respectively, which were mortgage-related.

Securities impairment

The following tables present the fair value and gross unrealized losses for investment securities by aging category at June 30, 2017, and December 31, 2016.

	Securities with gross unrealized losses					
	Less than 12 months		12 months or more			
June 30, 2017 (in millions)	Fair value	Gross unrealized losses	Fair value	Gross unrealized losses	Total fair value	Total gross unrealized losses
Available-for-sale debt securities						
Mortgage-backed securities:						
U.S. government agencies	$ 27,165	$ 378	$ 609	$ 11	$ 27,774	$ 389
Residential:						
U.S.[(a)]	620	3	944	12	1,564	15
Non-U.S.	–	–	505	1	505	1
Commercial	1,009	2	848	4	1,857	6
Total mortgage-backed securities	28,794	383	2,906	28	31,700	411
U.S. Treasury and government agencies	5,464	260	2,485	21	7,949	281
Obligations of U.S. states and municipalities	3,494	64	38	2	3,532	66
Certificates of deposit	–	–	–	–	–	–
Non-U.S. government debt securities	3,317	25	198	2	3,515	27
Corporate debt securities	640	2	165	4	805	6
Asset-backed securities:						
Collateralized loan obligations	–	–	801	5	801	5
Other	–	–	1,614	13	1,614	13
Total available-for-sale debt securities	41,709	734	8,207	75	49,916	809
Available-for-sale equity securities	–	–	–	–	–	–
Held-to-maturity securities						
Mortgage-backed securities						
U.S. government agencies	2,477	35	–	–	2,477	35
Commercial	5,274	70	–	–	5,274	70
Total mortgage-backed securities	7,751	105	–	–	7,751	105
Obligations of U.S. states and municipalities	2,758	65	199	8	2,957	73
Total held-to-maturity securities	10,509	170	199	8	10,708	178
Total securities with gross unrealized losses	$ 52,218	$ 904	$ 8,406	$ 83	$ 60,624	$ 987

(a) Prior period amounts have been revised to conform with current period presentation.

December 31, 2016 (in millions)	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 debt securities						
Mortgage-backed securities:						
U.S. government agencies	$ 29,856	$ 463	$ 506	$ 11	$ 30,362	$ 474
Residential:						
U.S. [(a)]	1,373	6	1,073	22	2,446	28
Non-U.S.	–	–	886	7	886	7
Commercial	2,328	16	1,056	3	3,384	19
Total mortgage-backed securities	33,557	485	3,521	43	37,078	528
U.S. Treasury and government agencies	23,543	796	–	–	23,543	796
Obligations of U.S. states and municipalities	7,147	180	55	3	7,202	183
Certificates of deposit	–	–	–	–	–	–
Non-U.S. government debt securities	4,436	36	421	9	4,857	45
Corporate debt securities	797	2	829	20	1,626	22
Asset-backed securities:						
Collateralized loan obligations	766	2	5,263	24	6,029	26
Other	739	6	1,992	40	2,731	46
Total available-for-sale debt securities	70,985	1,507	12,081	139	83,066	1,646
Available-for-sale equity securities	–	–	–	–	–	–
Held-to-maturity debt securities						
Mortgage-backed securities						
U.S. government agencies	3,129	37	–	–	3,129	37
Commercial	5,163	114	441	15	5,604	129
Total mortgage-backed securities	8,292	151	441	15	8,733	166
Obligations of U.S. states and municipalities	4,702	125	–	–	4,702	125
Total held-to-maturity securities	12,994	276	441	15	13,435	291
Total securities with gross unrealized losses	$ 83,979	$ 1,783	$ 12,522	$ 154	$ 96,501	$ 1,937

(a) Prior period amounts have been revised to conform with current period presentation.

Gross unrealized losses

JPMorgan Chase Bank, N.A. has recognized unrealized losses on securities it intends to sell as other-than-temporary impairment ("OTTI"). JPMorgan Chase Bank, N.A. does not intend to sell any of the remaining securities with an unrealized loss in AOCI as of June 30, 2017, and it is not likely that JPMorgan Chase Bank, N.A. will be required to sell these securities before recovery of their amortized cost basis. Except for the securities for which credit losses have been recognized in income, JPMorgan Chase Bank, N.A. believes that the securities with an unrealized loss in AOCI as of June 30, 2017, are not other-than-temporarily impaired. For additional information on OTTI, see Note 13 of the JPMorgan Chase Bank, N.A. 2016 Annual Financial Statements.

Securities gains and losses

The following table presents realized gains and losses and OTTI losses from AFS securities that were recognized in income.

(in millions)	Six months ended June 30, 2017	2016
Realized gains	**$ 542**	$ 188
Realized losses	**(572)**	(79)
OTTI losses[(a)]	**(7)**	(38)
Net securities gains	**$ (37)**	$ 71
OTTI losses		
Credit-related losses recognized in income	**$ –**	$ (1)
Securities JPMorgan Chase Bank, N.A. intends to sell[(a)]	**(7)**	(37)
Total OTTI losses recognized in income	**$ (7)**	$ (38)

(a) Excludes realized losses on securities sold of $5 million for both the six months ended June 30, 2017 and 2016 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 debt securities that JPMorgan Chase Bank, N.A. does not intend to sell was not material as of and during the six month periods ended June 30, 2017 and 2016.

Contractual maturities and yields

The following table presents the amortized cost and estimated fair value at June 30, 2017, of JPMorgan Chase Bank, N.A.'s investment securities portfolio by contractual maturity.

By remaining maturity June 30, 2017 (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[c]	Total
Available-for-sale debt securities					
Mortgage-backed securities[a]					
Amortized cost	$ 961	$ 1,681	$ 6,427	$ 77,920	$ 86,989
Fair value	966	1,714	6,617	78,775	88,072
Average yield[b]	1.40%	2.33%	3.14%	3.29%	3.24%
U.S. Treasury and government agencies					
Amortized cost	$ 146	$ –	$ 25,005	$ 3,096	$ 28,247
Fair value	146	–	24,895	3,117	28,158
Average yield[b]	0.59%	–%	1.52%	1.50%	1.51%
Obligations of U.S. states and municipalities					
Amortized cost	$ 73	$ 643	$ 905	$ 26,910	$ 28,531
Fair value	73	654	959	28,487	30,173
Average yield[b]	2.61%	2.77%	6.17%	6.51%	6.40%
Certificates of deposit					
Amortized cost	$ 57	$ –	$ –	$ –	$ 57
Fair value	57	–	–	–	57
Average yield[b]	0.50%	–%	–%	–%	0.50%
Non-U.S. government debt securities					
Amortized cost	$ 4,593	$ 14,229	$ 11,133	$ 52	$ 30,007
Fair value	4,597	14,480	11,444	50	30,571
Average yield[b]	2.64%	1.61%	1.04%	0.79%	1.55%
Corporate debt securities					
Amortized cost	$ 1,402	$ 1,105	$ 1,441	$ 99	$ 4,047
Fair value	1,404	1,136	1,487	105	4,132
Average yield[b]	2.78%	3.31%	3.39%	3.58%	3.16%
Asset-backed securities					
Amortized cost	$ –	$ 813	$ 20,777	$ 9,117	$ 30,707
Fair value	–	814	20,811	9,185	30,810
Average yield[b]	–%	1.34%	2.54%	2.15%	2.39%
Total available-for-sale debt securities					
Amortized cost	$ 7,232	$ 18,471	$ 65,688	$ 117,194	$ 208,585
Fair value	7,243	18,798	66,213	119,719	211,973
Average yield[b]	2.44%	1.81%	2.02%	3.89%	3.07%
Available-for-sale equity securities					
Amortized cost	$ –	$ –	$ –	$ 39	$ 39
Fair value	–	–	–	39	39
Average yield[b]	–%	–%	–%	0.24%	0.24%
Total available-for-sale securities					
Amortized cost	$ 7,232	$ 18,471	$ 65,688	$ 117,233	$ 208,624
Fair value	7,243	18,798	66,213	119,758	212,012
Average yield[b]	2.44%	1.81%	2.02%	3.89%	3.07%
Held-to-maturity debt securities					
Mortgage-backed securities[a]					
Amortized cost	$ –	$ –	$ –	$ 33,324	$ 33,324
Fair value	–	–	–	33,876	33,876
Average yield[b]	–%	–%	–%	3.29%	3.29%
Obligations of U.S. states and municipalities					
Amortized cost	$ –	$ 29	$ 1,664	$ 12,744	$ 14,437
Fair value	–	29	1,727	13,164	14,920
Average yield[b]	–%	6.77%	5.12%	5.69%	5.63%
Total held-to-maturity securities					
Amortized cost	$ –	$ 29	$ 1,664	$ 46,068	$ 47,761
Fair value	–	29	1,727	47,040	48,796
Average yield[b]	–%	6.77%	5.12%	3.95%	4.00%

(a) As of June 30, 2017, mortgage-backed securities issued by Fannie Mae exceeded 10% of JPMorgan Chase Bank, N.A.'s total stockholder's equity; the amortized cost and fair value of such securities was $59.9 billion and $61.1 billion, respectively.

(b) 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.
(c) Includes securities with no stated maturity. Substantially all of JPMorgan Chase Bank, N.A.'s residential mortgage-backed securities ("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 7 years for agency residential MBS, 3 years for agency residential collateralized mortgage obligations and 3 years for nonagency residential collateralized mortgage obligations.

Note 11 – Securities financing activities

For a discussion of accounting policies relating to securities financing activities, see Note 14 of JPMorgan Chase Bank, N.A.'s 2016 Annual Financial Statements. For further information regarding securities borrowed and securities lending agreements for which the fair value option has been elected, see Note 4. For further information regarding assets pledged and collateral received in securities financing agreements, see Note 21.

The table below summarizes the gross and net amounts of JPMorgan Chase Bank, N.A.'s securities financing agreements as of June 30, 2017 and December 31, 2016. When JPMorgan Chase Bank, N.A. has obtained an appropriate legal opinion with respect to the master netting agreement with a counterparty and where other relevant netting criteria under U.S. GAAP are met, JPMorgan Chase Bank, N.A. nets, on the Consolidated balance sheets, the balances outstanding under its securities financing agreements with the same counterparty. In addition, JPMorgan Chase Bank, N.A. exchanges securities and/or cash collateral with its counterparties; this collateral also reduces, in JPMorgan Chase Bank, N.A.'s view, the economic exposure with the counterparty. Such collateral, along with securities financing balances that do not meet all these relevant netting criteria under U.S. GAAP, is presented as "Amounts not nettable on the Consolidated balance sheets," and reduces the "Net amounts" presented below, if JPMorgan Chase Bank, N.A. has an appropriate legal opinion with respect to the master netting agreement with the counterparty. Where a legal opinion has not been either sought or obtained, the securities financing balances are presented gross in the "Net amounts" below, and related collateral does not reduce the amounts presented.

	June 30, 2017				
(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	$ **328,671**	$ **(172,783)**	$ **155,888**	$ **(147,208)**	$ **8,680**
Securities borrowed	**30,170**	**(2,518)**	**27,652**	**(25,868)**	**1,784**
Liabilities					
Securities sold under repurchase agreements	$ **254,173**	$ **(172,783)**	$ **81,390**	$ **(76,986)**	$ **4,404**
Securities loaned and other[a]	**20,126**	**(2,518)**	**17,608**	**(16,449)**	**1,159**

	December 31, 2016				
(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	$ 320,678	$ (148,236)	$ 172,442	$ (165,651)	$ 6,791
Securities borrowed	32,497	–	32,497	(30,175)	2,322
Liabilities					
Securities sold under repurchase agreements	$ 214,823	$ (148,236)	$ 66,587	$ (64,082)	$ 2,505
Securities loaned and other[a]	14,996	–	14,996	(14,093)	903

(a) Includes securities-for-securities lending transactions of $7.6 billion and $7.5 billion at June 30, 2017 and December 31, 2016, respectively, accounted for at fair value, where JPMorgan Chase Bank, N.A. is acting as lender. These amounts are presented within other liabilities in the Consolidated balance sheets.
(b) Includes securities financing agreements accounted for at fair value. At June 30, 2017 and December 31, 2016, included securities purchased under resale agreements of $4.0 billion and $5.3 billion, respectively and securities sold under agreements to repurchase of $2.0 billion and $399 million, respectively. There were $1.6 billion of securities borrowed at June 30, 2017, and there were no securities borrowed at December 31, 2016. 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 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 June 30, 2017 and December 31, 2016, included $6.1 billion and $4.5 billion, respectively, of securities purchased under resale agreements; $1.1 billion and $1.9 billion, respectively, of securities borrowed; $431 million and $523 million, respectively, of securities sold under agreements to repurchase; and $98 million and $11 million, respectively, of securities loaned and other.

The tables below present as of June 30, 2017 and December 31, 2016 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			
	June 30, 2017		December 31, 2016	
	Securities sold under repurchase agreements	Securities loaned and other[(a)]	Securities sold under repurchase agreements	Securities loaned and other[(a)]
Mortgage-backed securities	**$ 4,566**	**$ –**	$ 2,364	$ –
U.S. Treasury and government agencies	**57,047**	**7,150**	52,657	7,036
Non-U.S. government debt	**183,299**	**3,744**	150,599	1,617
Corporate debt securities	**8,028**	**447**	8,097	466
Asset-backed securities	**1,233**	–	1,106	–
Equity securities	**–**	**8,785**	–	5,877
Total	**$ 254,173**	**$ 20,126**	$ 214,823	$ 14,996

June 30, 2017 (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	**$ 78,687**	**$ 121,763**	**$ 36,298**	**$ 17,425**	**$ 254,173**
Total securities loaned and other[(a)]	**17,142**	**1,414**	**213**	**1,357**	**20,126**

December 31, 2016 (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	$ 31,776	$ 122,979	$ 39,398	$ 20,670	$ 214,823
Total securities loaned and other[(a)]	12,880	1,388	520	208	14,996

(a) Includes securities-for-securities lending transactions of $7.6 billion and $7.5 billion at June 30, 2017 and December 31, 2016, respectively, accounted for at fair value, where JPMorgan Chase Bank, N.A. is acting as lender. These amounts are presented within other liabilities on the Consolidated balance sheets.

Transfers not qualifying for sale accounting

At June 30, 2017 and December 31, 2016, JPMorgan Chase Bank, N.A. held $4.9 billion and $5.8 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 other borrowed funds on the Consolidated balance sheets.

Note 12 – 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. JPMorgan Chase Bank, N.A. 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

For a detailed discussion of loans, including accounting policies, see Note 15 of JPMorgan Chase Bank, N.A.'s 2016 Annual Financial Statements. See Note 4 of these Consolidated Financial Statements for further information on JPMorgan Chase Bank, N.A.'s elections of fair value accounting under the fair value option. See Note 3 of these Consolidated Financial Statements for information on loans carried at fair value and classified as trading assets.

Loan portfolio

JPMorgan Chase Bank, N.A.'s loan portfolio is divided into three portfolio segments, which are the same segments used by JPMorgan Chase Bank, N.A. to determine the allowance for loan losses: Consumer, excluding credit card; Credit card; and Wholesale. Within each portfolio segment JPMorgan Chase Bank, N.A. 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[(g)]
Residential real estate – excluding PCI • Home equity[(b)] • Residential mortgage[(c)] Other consumer loans • Auto[(d)] • Consumer & business banking[(d)(e)] • Student Residential real estate – PCI • Home equity • Prime mortgage • Subprime mortgage • Option adjustable rate mortgages ("ARMs")	• Credit card loans[(f)]	• Commercial and industrial • Real estate • Financial institutions • Government agencies • Other[(h)]

(a) Includes loans held in the consumer & community banking business, prime mortgage and home equity loans held in the asset & wealth management business and prime mortgage loans held in the corporate business.
(b) Includes senior and junior lien home equity loans.
(c) Predominantly includes prime (including option ARMs) and subprime 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 the consumer & community banking business, and therefore, for consistency in presentation, are included with the other consumer loan classes.
(e) Predominantly includes business banking loans.
(f) Predominantly includes credit card loans acquired pursuant to a participation agreement with Chase Bank USA, N.A., a related-party, and subsequent draws on revolving credit lines associated with the participation agreement.
(g) Includes loans held in the corporate & investment banking, commercial banking and asset & wealth management businesses and in the corporate business. Excludes prime mortgage and home equity loans held in the asset & wealth management businesses and prime mortgage loans held in the corporate business. Classes are internally defined and may not align with regulatory definitions.
(h) Includes loans to: individuals; special purpose entities ("SPEs"); and private education and civic organizations. For more information on SPEs, see Note 17 of JPMorgan Chase Bank, N.A.'s 2016 Annual Financial Statements.

The following tables summarize JPMorgan Chase Bank, N.A.'s loan balances by portfolio segment.

June 30, 2017 (in millions)	Consumer, excluding credit card	Credit card[a]	Wholesale	Total
Retained	**$ 365,075**	**$ 37,058**	**$ 397,650**	**$ 799,783** [b]
Held-for-sale	**256**	**106**	**6,850**	**7,212**
At fair value	**—**	**—**	**1,978**	**1,978**
Total	**$ 365,331**	**$ 37,164**	**$ 406,478**	**$ 808,973**

December 31, 2016 (in millions)	Consumer, excluding credit card	Credit card[a]	Wholesale	Total
Retained	$ 364,360	$ 35,773	$ 387,132	$ 787,265 [b]
Held-for-sale	238	105	2,283	2,626
At fair value	—	—	2,228	2,228
Total	$ 364,598	$ 35,878	$ 391,643	$ 792,119

(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 unearned income, unamortized discounts and premiums, and net deferred loan costs. These amounts were not material as of June 30, 2017, and December 31, 2016.

The following table provides information about the carrying value of retained loans purchased, sold and reclassified to held-for-sale during the periods indicated. This table excludes loans recorded at fair value. JPMorgan Chase Bank, N.A. manages its exposure to credit risk on an ongoing basis. Selling loans is one way that JPMorgan Chase Bank, N.A. reduces its credit exposures.

	2017				2016			
Six months ended June 30, (in millions)	Consumer, excluding credit card	Credit card	Wholesale	Total	Consumer, excluding credit card	Credit card	Wholesale	Total
Purchases	**$ 1,566** [a][b]	**$ —**	**$ 878**	**$ 2,444**	$ 2,089 [a][b]	$ —	$ 693	$ 2,782
Sales	**1,353**	**—**	**4,824**	**6,177**	1,665	—	3,746	5,411
Retained loans reclassified to held-for-sale	**6,340** [c]	**—**	**768**	**7,108**	83	—	616 [d]	699

(a) Purchases predominantly represent JPMorgan Chase Bank, N.A.'s voluntary repurchase of certain delinquent loans from loan pools as permitted by Government National Mortgage Association ("Ginnie Mae") guidelines. JPMorgan Chase Bank, N.A. 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, the Federal Housing Administration ("FHA"), Rural Housing Services ("RHS"), and/or the U.S. Department of Veterans Affairs ("VA").
(b) Excludes purchases of retained loans sourced through the correspondent origination channel and underwritten in accordance with JPMorgan Chase Bank, N.A.'s standards. Such purchases were $11.3 billion and $17.1 billion for the six months ended June 30, 2017 and 2016, respectively.
(c) Includes JPMorgan Chase Bank N.A.'s student loan portfolio, which was transferred to held-for-sale in the first half of 2017. For additional information see Note 23.
(d) Prior period results were revised to conform with the current period presentation.

The following table provides information about gains and losses on loan sales, including lower of cost or fair value adjustments, by portfolio segment.

	Six months ended June 30,	
(in millions)	**2017**	2016
Net gains/(losses) on sales of loans (including lower of cost or fair value adjustments)[a]		
Consumer, excluding credit card[b]	**$ (214)**	$ 117
Credit card	**(2)**	(4)
Wholesale	**19**	(2)
Total net gains/(losses) on sales of loans (including lower of cost or fair value adjustments)	**$ (197)**	$ 111

(a) Excludes sales related to loans accounted for at fair value.
(b) Includes JPMorgan Chase Bank N.A.'s student loan portfolio, which was transferred to held-for-sale in the first half of 2017. For additional information see Note 23.

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, consumer and business banking loans, and student 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 table below provides information about retained consumer loans, excluding credit card, by class. In the first half of 2017, JPMorgan Chase Bank, N.A. transferred the student loan portfolio to held-for-sale. For additional information see Note 23.

(in millions)	June 30, 2017	December 31, 2016
Residential real estate – excluding PCI		
Home equity	**$ 35,989**	$ 39,049
Residential mortgage[a]	**205,352**	192,455
Other consumer loans		
Auto	**65,627**	65,814
Consumer & business banking[a]	**25,043**	24,306
Student[a]	**—**	7,057
Residential real estate – PCI		
Home equity	**11,838**	12,902
Prime mortgage	**7,023**	7,602
Subprime mortgage	**2,771**	2,941
Option ARMs	**11,432**	12,234
Total retained loans	**$ 365,075**	$ 364,360

(a) Certain loan portfolios have been reclassified. The prior period amounts have been revised to conform with current period presentation.

For further information on consumer credit quality indicators, see Note 15 of JPMorgan Chase Bank, N.A.'s 2016 Annual Financial Statements.

Residential real estate – excluding PCI loans

The following table provides information by class for residential real estate – excluding retained PCI loans in the consumer, excluding credit card, portfolio segment.

Residential real estate – excluding PCI loans

	Home equity		Residential mortgage[g]		Total residential real estate – excluding PCI	
(in millions, except ratios)	**Jun 30, 2017**	Dec 31, 2016	**Jun 30, 2017**	Dec 31, 2016	**Jun 30, 2017**	Dec 31, 2016
Loan delinquency[a]						
Current	**$ 35,050**	$ 37,927	**$ 198,238**	$ 184,109	**$ 233,288**	$ 222,036
30–149 days past due	**535**	646	**3,281**	3,824	**3,816**	4,470
150 or more days past due	**404**	476	**3,833**	4,522	**4,237**	4,998
Total retained loans	**$ 35,989**	$ 39,049	**$ 205,352**	$ 192,455	**$ 241,341**	$ 231,504
% of 30+ days past due to total retained loans[b]	**2.61%**	2.87%	**0.63%**	0.75%	**0.92%**	1.11%
90 or more days past due and government guaranteed[c]	**$ –**	$ –	**$ 3,957**	$ 4,856	**$ 3,957**	$ 4,856
Nonaccrual loans	**1,645**	1,844	**2,087**	2,253	**3,732**	4,097
Current estimated loan-to-value ("LTV") ratios[d][e]						
Greater than 125% and refreshed FICO scores:						
Equal to or greater than 660	**$ 18**	$ 70	**$ 25**	$ 30	**$ 43**	$ 100
Less than 660	**7**	15	**39**	48	**46**	63
101% to 125% and refreshed FICO scores:						
Equal to or greater than 660	**370**	668	**58**	135	**428**	803
Less than 660	**119**	220	**128**	177	**247**	397
80% to 100% and refreshed FICO scores:						
Equal to or greater than 660	**2,137**	2,960	**3,329**	4,025	**5,466**	6,985
Less than 660	**692**	945	**555**	717	**1,247**	1,662
Less than 80% and refreshed FICO scores:						
Equal to or greater than 660	**26,392**	27,307	**184,115**	169,570	**210,507**	196,877
Less than 660	**4,135**	4,380	**6,986**	6,753	**11,121**	11,133
No FICO/LTV available	**2,119**	2,484	**1,545**	1,649	**3,664**	4,133
U.S. government-guaranteed	**–**	–	**8,572**	9,351	**8,572**	9,351
Total retained loans	**35,989**	39,049	**205,352**	192,455	**$ 241,341**	$ 231,504
Geographic region						
California	**$ 7,050**	$ 7,641	**$ 64,827**	$ 59,802	**$ 71,877**	$ 67,443
New York	**7,375**	7,975	**26,476**	24,912	**33,851**	32,887
Illinois	**2,704**	2,946	**13,883**	13,125	**16,587**	16,071
Texas	**2,123**	2,224	**11,692**	10,771	**13,815**	12,995
Florida	**1,973**	2,132	**9,175**	8,393	**11,148**	10,525
New Jersey	**2,090**	2,252	**6,734**	6,374	**8,824**	8,626
Colorado	**630**	677	**6,865**	6,306	**7,495**	6,983
Washington	**1,121**	1,228	**6,177**	5,450	**7,298**	6,678
Massachusetts	**332**	371	**6,060**	5,834	**6,392**	6,205
Arizona	**1,598**	1,771	**3,899**	3,595	**5,497**	5,366
All other[f]	**8,993**	9,832	**49,564**	47,893	**58,557**	57,725
Total retained loans	**$ 35,989**	$ 39,049	**$ 205,352**	$ 192,455	**$ 241,341**	$ 231,504

(a) Individual delinquency classifications include mortgage loans insured by U.S. government agencies as follows: current included $2.8 billion and $2.5 billion; 30–149 days past due included $2.6 billion and $3.1 billion; and 150 or more days past due included $3.2 billion and $3.8 billion at June 30, 2017, and December 31, 2016, respectively.

(b) At June 30, 2017, and December 31, 2016, residential mortgage loans excluded mortgage loans insured by U.S. government agencies of $5.8 billion and $6.9 billion, respectively, that are 30 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 June 30, 2017, and December 31, 2016, these balances included $1.9 billion and $2.2 billion, 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 June 30, 2017, and December 31, 2016.

(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 JPMorgan Chase Bank, N.A. on at least a quarterly basis.

(f) At June 30, 2017, and December 31, 2016, included mortgage loans insured by U.S. government agencies of $8.6 billion and $9.4 billion, respectively.

(g) Certain loan portfolios have been reclassified. The prior period amounts have been revised to conform with the current period presentation.

The following table represents JPMorgan Chase Bank, N.A.'s delinquency statistics for junior lien home equity loans and lines as of June 30, 2017, and December 31, 2016.

(in millions, except ratios)	Total loans		Total 30+ day delinquency rate	
	Jun 30, 2017	Dec 31, 2016	**Jun 30, 2017**	Dec 31, 2016
HELOCs:[(a)]				
Within the revolving period[(b)]	**$ 7,946**	$ 10,297	**0.79%**	1.27%
Beyond the revolving period	**13,566**	13,265	**2.76**	3.05
HELOANs	**1,599**	1,861	**2.69**	2.85
Total	**$ 23,111**	$ 25,423	**2.08%**	2.32%

(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) JPMorgan Chase Bank, N.A. 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.

Home equity lines of credit ("HELOCs") beyond the revolving period and home equity loans ("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 JPMorgan Chase Bank, N.A.'s allowance for loan losses.

Impaired loans

The table below sets forth information about JPMorgan Chase Bank, N.A.'s residential real estate impaired loans, excluding PCI loans. These loans are considered to be impaired as they have been modified in a troubled debt restructuring ("TDR"). All impaired loans are evaluated for an asset-specific allowance as described in Note 16 of JPMorgan Chase Bank, N.A.'s 2016 Annual Financial Statements.

(in millions)	Home equity		Residential mortgage		Total residential real estate – excluding PCI	
	Jun 30, 2017	Dec 31, 2016	**Jun 30, 2017**	Dec 31, 2016	**Jun 30, 2017**	Dec 31, 2016
Impaired loans						
With an allowance	**$ 1,241**	$ 1,266	**$ 4,523**	$ 4,681	**$ 5,764**	$ 5,947
Without an allowance[(a)]	**921**	998	**1,274**	1,341	**2,195**	2,339
Total impaired loans[(b)(c)]	**$ 2,162**	$ 2,264	**$ 5,797**	$ 6,022	**$ 7,959**	$ 8,286
Allowance for loan losses related to impaired loans	**$ 126**	$ 121	**$ 67**	$ 68	**$ 193**	$ 189
Unpaid principal balance of impaired loans[(d)]	**3,804**	3,846	**7,987**	8,274	**11,791**	12,120
Impaired loans on nonaccrual status[(e)]	**1,056**	1,116	**1,682**	1,752	**2,738**	2,868

(a) Represents collateral-dependent residential real estate loans that are charged off to the fair value of the underlying collateral less cost to sell. JPMorgan Chase Bank, N.A. 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 June 30, 2017, Chapter 7 residential real estate loans included approximately 11% of home equity and 13% of residential mortgages that were 30 days or more past due.
(b) At June 30, 2017, and December 31, 2016, $3.8 billion and $3.4 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 residential real estate impaired loans, excluding PCI loans, are in the U.S.
(d) Represents the contractual amount of principal owed at June 30, 2017, and December 31, 2016. 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) As of June 30, 2017, and December 31, 2016, nonaccrual loans included $2.2 billion and $2.3 billion, respectively, of TDRs for which the borrowers were less than 90 days past due. For additional information about loans modified in a TDR that are on nonaccrual status refer to the Loan accounting framework in Note 15 of JPMorgan Chase Bank, N.A.'s 2016 Annual Financial Statements.

The following table presents average impaired loans and the related interest income reported by JPMorgan Chase Bank, N.A.

Six months ended June 30,	Average impaired loans		Interest income on impaired loans[(a)]		Interest income on impaired loans on a cash basis[(a)]	
(in millions)	**2017**	2016	**2017**	2016	**2017**	2016
Home equity	**$ 2,245**	$ 2,349	**$ 61**	$ 63	**$ 38**	$ 41
Residential mortgage	**5,913**	6,524	**141**	155	**33**	39
Total residential real estate – excluding PCI	**$ 8,158**	$ 8,873	**$ 202**	$ 218	**$ 71**	$ 80

(a) Generally, interest income on loans modified in TDRs is recognized on a cash basis until such time as 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 JPMorgan Chase Bank, N.A.

	Six months ended June 30,	
(in millions)	**2017**	2016
Home equity	**$ 150**	$ 196
Residential mortgage	**168**	121
Total residential real estate – excluding PCI	**$ 318**	$ 317

Nature and extent of modifications

The U.S. Treasury's Making Home Affordable programs, as well as JPMorgan Chase Bank, N.A.'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 table provides information about how residential real estate loans, excluding PCI loans, were modified under JPMorgan Chase Bank, N.A.'s loss mitigation programs described above during the periods presented. This table excludes Chapter 7 loans where the sole concession granted is the discharge of debt.

	Home equity		Residential mortgage		Total residential real estate - excluding PCI	
Six months ended June 30,	**2017**	2016	**2017**	2016	**2017**	2016
Number of loans approved for a trial modification	**1,308**	1,721	**845**	1,127	**2,153**	2,848
Number of loans permanently modified	**2,800**	2,641	**1,440**	1,699	**4,240**	4,340
Concession granted:[(a)]						
Interest rate reduction	**71%**	71%	**76%**	72%	**72%**	71%
Term or payment extension	**84**	88	**86**	90	**84**	89
Principal and/or interest deferred	**13**	18	**14**	19	**14**	18
Principal forgiveness	**9**	10	**19**	27	**12**	17
Other[(b)]	**13**	1	**27**	21	**18**	9

(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. A significant portion of trial modifications include interest rate reductions and/or term or payment extensions.
(b) Predominantly represents variable interest rate to fixed interest rate modifications.

Financial effects of modifications and redefaults

The following table provides information about the financial effects of the various concessions granted in modifications of residential real estate loans, excluding PCI, under the loss mitigation programs described above and about redefaults of certain loans modified in TDRs for the periods presented. Because the specific types and amounts of concessions offered to borrowers frequently change between the trial modification and the permanent modification, the following table presents only the financial effects of permanent modifications. This table also excludes Chapter 7 loans where the sole concession granted is the discharge of debt.

Six months ended June 30, (in millions, except weighted-average data and number of loans)	Home equity		Residential mortgage		Total residential real estate – excluding PCI	
	2017	2016	**2017**	2016	**2017**	2016
Weighted-average interest rate of loans with interest rate reductions – before TDR	**4.82%**	5.13%	**5.25%**	5.60%	**5.06%**	5.41%
Weighted-average interest rate of loans with interest rate reductions – after TDR	**2.42**	2.46	**3.01**	2.91	**2.74**	2.73
Weighted-average remaining contractual term (in years) of loans with term or payment extensions – before TDR	**23**	18	**24**	25	**23**	22
Weighted-average remaining contractual term (in years) of loans with term or payment extensions – after TDR	**38**	38	**38**	38	**38**	38
Charge-offs recognized upon permanent modification	**$ 1**	$ 1	**$ 1**	$ 2	**$ 2**	$ 3
Principal deferred	**7**	12	**7**	19	**14**	31
Principal forgiven	**5**	4	**11**	25	**16**	29
Balance of loans that redefaulted within one year of permanent modification[(a)]	**$ 21**	$ 20	**$ 58**	$ 48	**$ 79**	$ 68

(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 June 30, 2017, the weighted-average estimated remaining lives of residential real estate loans, excluding PCI loans, permanently modified in TDRs were 10 years for home equity and 13 years for residential mortgage. 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 June 30, 2017, and December 31, 2016, JPMorgan Chase Bank, N.A. had non-PCI residential real estate loans, excluding those insured by U.S. government agencies, with a carrying value of $796 million and $931 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. This table excludes student loans as a result of the transfer of the student loan portfolio to held-for-sale and its subsequent sale in the first half of 2017.

	Auto		Consumer & business banking[c]	
(in millions, except ratios)	**Jun 30, 2017**	Dec 31, 2016	**Jun 30, 2017**	Dec 31, 2016
Loan delinquency[a]				
Current	**$ 65,050**	$ 65,029	**$ 24,745**	$ 23,919
30–119 days past due	**568**	773	**150**	247
120 or more days past due	**9**	12	**148**	140
Total retained loans	**$ 65,627**	$ 65,814	**$ 25,043**	$ 24,306
% of 30+ days past due to total retained loans	**0.88%**	1.19%	**1.19%**	1.59%
Nonaccrual loans[a]	**158**	214	**301**	287
Geographic region				
California	**$ 8,347**	$ 7,975	**$ 4,731**	$ 4,426
Texas	**6,807**	7,041	**2,929**	2,954
New York	**3,974**	4,078	**4,066**	3,979
Illinois	**4,052**	3,984	**1,867**	1,758
Florida	**3,369**	3,374	**1,263**	1,195
Ohio	**2,126**	2,194	**1,412**	1,402
Arizona	**2,132**	2,209	**1,305**	1,307
Michigan	**1,552**	1,567	**1,350**	1,343
New Jersey	**2,044**	2,031	**658**	623
Louisiana	**1,712**	1,814	**951**	979
All other	**29,512**	29,547	**4,511**	4,340
Total retained loans	**$ 65,627**	$ 65,814	**$ 25,043**	$ 24,306
Loans by risk ratings[b]				
Noncriticized	**$ 14,863**	$ 13,899	**$ 17,465**	$ 16,858
Criticized performing	**119**	201	**750**	816
Criticized nonaccrual	**56**	94	**227**	217

(a) There were no loans that were 90 or more days past due and still accruing interest at June 30, 2017, and December 31, 2016.
(b) 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.
(c) Certain loan portfolios have been reclassified. The prior period amounts have been revised to conform with the current period presentation.

Other consumer impaired loans and loan modifications

The table below sets forth information about JPMorgan Chase Bank, N.A.'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)		June 30, 2017		December 31, 2016
Impaired loans				
With an allowance	**$**	**345**	$	614
Without an allowance[(a)]		**29**		30
Total impaired loans[(b)(c)]	**$**	**374**	$	644
Allowance for loan losses related to impaired loans	**$**	**103**	$	119
Unpaid principal balance of impaired loans[(d)]		**462**		753
Impaired loans on nonaccrual status		**331**		508

(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 $501 million and $596 million for the six months ended June 30, 2017 and 2016, respectively. The related interest income on impaired loans, including those on a cash basis, was not material for the six months ended June 30, 2017 and 2016.

(d) Represents the contractual amount of principal owed at June 30, 2017, and December 31, 2016. 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 in the table above. See Note 15 of JPMorgan Chase Bank, N.A.'s 2016 Annual Financial Statements for further information on other consumer loans modified in TDRs.

The following table provides information about JPMorgan Chase Bank, N.A.'s other consumer loans modified in TDRs. New TDRs were not material for the six months ended June 30, 2017 and 2016.

(in millions)		June 30, 2017		December 31, 2016
Loans modified in TDRs[(a)(b)]	**$**	**119**	$	362
TDRs on nonaccrual status		**76**		226

(a) The impact of these modifications was not material to JPMorgan Chase Bank, N.A. for the six months ended June 30, 2017 and 2016.

(b) Additional commitments to lend to borrowers whose loans have been modified in TDRs as of June 30, 2017, and December 31, 2016, were immaterial.

Purchased credit-impaired loans

For a detailed discussion of PCI loans, including the related accounting policies, see Note 15 of JPMorgan Chase Bank, N.A.'s 2016 Annual Financial Statements.

Residential real estate – PCI loans

The table below sets forth information about JPMorgan Chase Bank, N.A.'s consumer, excluding credit card, PCI loans.

	Home equity		Prime mortgage		Subprime mortgage		Option ARMs		Total PCI	
(in millions, except ratios)	**Jun 30, 2017**	Dec 31, 2016	**Jun 30, 2017**	Dec 31, 2016	**Jun 30, 2017**	Dec 31, 2016	**Jun 30, 2017**	Dec 31, 2016	**Jun 30, 2017**	Dec 31, 2016
Carrying value[a]	**$11,838**	$12,902	**$ 7,023**	$ 7,602	**$ 2,771**	$ 2,941	**$11,432**	$12,234	**$33,064**	$35,679
Related allowance for loan losses[b]	**1,133**	1,433	**903**	829	**150**	–	**79**	49	**2,265**	2,311
Loan delinquency (based on unpaid principal balance)										
Current	**$11,396**	$12,423	**$ 6,367**	$ 6,840	**$ 2,914**	$ 3,005	**$10,443**	$11,074	**$31,120**	$33,342
30–149 days past due	**268**	291	**296**	336	**292**	361	**466**	555	**1,322**	1,543
150 or more days past due	**434**	478	**384**	451	**188**	240	**774**	917	**1,780**	2,086
Total loans	**$12,098**	$13,192	**$ 7,047**	$ 7,627	**$ 3,394**	$ 3,606	**$11,683**	$12,546	**$34,222**	$36,971
% of 30+ days past due to total loans	**5.80%**	5.83%	**9.65%**	10.32%	**14.14%**	16.67%	**10.61%**	11.73%	**9.06%**	9.82%
Current estimated LTV ratios (based on unpaid principal balance)[c][d]										
Greater than 125% and refreshed FICO scores:										
Equal to or greater than 660	**$ 44**	$ 69	**$ 6**	$ 6	**$ 5**	$ 7	**$ 6**	$ 12	**$ 61**	$ 94
Less than 660	**23**	39	**16**	17	**25**	31	**13**	18	**77**	105
101% to 125% and refreshed FICO scores:										
Equal to or greater than 660	**365**	555	**27**	52	**26**	39	**61**	83	**479**	729
Less than 660	**175**	256	**56**	84	**94**	135	**91**	144	**416**	619
80% to 100% and refreshed FICO scores:										
Equal to or greater than 660	**1,480**	1,860	**292**	442	**146**	214	**376**	558	**2,294**	3,074
Less than 660	**678**	804	**289**	381	**356**	439	**463**	609	**1,786**	2,233
Lower than 80% and refreshed FICO scores:										
Equal to or greater than 660	**6,461**	6,676	**3,781**	3,967	**936**	919	**6,438**	6,754	**17,616**	18,316
Less than 660	**2,159**	2,183	**2,209**	2,287	**1,641**	1,645	**3,691**	3,783	**9,700**	9,898
No FICO/LTV available	**713**	750	**371**	391	**165**	177	**544**	585	**1,793**	1,903
Total unpaid principal balance	**$12,098**	$13,192	**$ 7,047**	$ 7,627	**$ 3,394**	$ 3,606	**$11,683**	$12,546	**$34,222**	$36,971
Geographic region (based on unpaid principal balance)										
California	**$ 7,218**	$ 7,899	**$ 4,034**	$ 4,396	**$ 846**	$ 899	**$ 6,626**	$ 7,128	**$18,724**	$20,322
Florida	**1,224**	1,306	**465**	501	**313**	332	**971**	1,026	**2,973**	3,165
New York	**653**	697	**487**	515	**347**	363	**660**	711	**2,147**	2,286
Washington	**603**	673	**151**	167	**64**	68	**263**	290	**1,081**	1,198
New Jersey	**259**	280	**196**	210	**119**	125	**373**	401	**947**	1,016
Illinois	**294**	314	**215**	226	**169**	178	**269**	282	**947**	1,000
Massachusetts	**88**	94	**159**	173	**104**	110	**321**	346	**672**	723
Maryland	**60**	64	**138**	144	**138**	145	**248**	267	**584**	620
Arizona	**219**	241	**113**	124	**63**	68	**167**	181	**562**	614
Virginia	**71**	77	**132**	142	**53**	56	**296**	314	**552**	589
All other	**1,409**	1,547	**957**	1,029	**1,178**	1,262	**1,489**	1,600	**5,033**	5,438
Total unpaid principal balance	**$12,098**	$13,192	**$ 7,047**	$ 7,627	**$ 3,394**	$ 3,606	**$11,683**	$12,546	**$34,222**	$36,971

(a) Carrying value includes the effect of fair value adjustments that were applied to the consumer PCI portfolio at the date of acquisition.
(b) Management concluded as part of JPMorgan Chase Bank, N.A.'s regular assessment of the PCI loan pools that it was probable that higher expected credit losses would result in a decrease in expected cash flows. As a result, an allowance for loan losses for impairment of these pools has been recognized.
(c) 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.
(d) Refreshed FICO scores represent each borrower's most recent credit score, which is obtained by JPMorgan Chase Bank, N.A. on at least a quarterly basis.

Approximately 24% of the PCI home equity portfolio are senior lien loans; the remaining balance are junior lien HELOANs or HELOCs. The following table sets forth delinquency statistics for PCI junior lien home equity loans and lines of credit based on the unpaid principal balance as of June 30, 2017, and December 31, 2016.

	Total loans		Total 30+ day delinquency rate	
(in millions, except ratios)	**Jun 30, 2017**	Dec 31, 2016	**Jun 30, 2017**	Dec 31, 2016
HELOCs:[(a)]				
Within the revolving period[(b)]	**$ 787**	$ 2,126	**3.94%**	3.67%
Beyond the revolving period[(c)]	**7,957**	7,452	**3.97**	4.03
HELOANs	**409**	465	**4.65**	5.38
Total	**$ 9,153**	$ 10,043	**4.00%**	4.01%

(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.
(b) Substantially all undrawn HELOCs within the revolving period have been closed.
(c) Includes loans modified into fixed rate amortizing loans.

The table below sets forth the accretable yield activity for JPMorgan Chase Bank, N.A.'s PCI consumer loans for the six months ended June 30, 2017 and 2016, and represents JPMorgan Chase Bank, N.A.'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	
	Six months ended June 30,	
(in millions, except ratios)	**2017**	2016
Beginning balance	**$ 11,768**	$ 13,491
Accretion into interest income	**(716)**	(802)
Changes in interest rates on variable-rate loans	**167**	101
Other changes in expected cash flows[(a)]	**1,420**	(489)
Balance at June 30	**$ 12,639**	$ 12,301
Accretable yield percentage	**4.45%**	4.36%

(a) Other changes in expected cash flows may vary from period to period as JPMorgan Chase Bank, N.A. 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 June 30, 2017, and December 31, 2016, JPMorgan Chase Bank, N.A. had PCI residential real estate loans with an unpaid principal balance of $1.5 billion and $1.7 billion, respectively, that were not included in REO, but were in the process of active or suspended foreclosure.

Credit card loan portfolio

The credit card portfolio predominantly includes credit card loans acquired pursuant to a participation agreement with Chase Bank USA, N.A., a related-party, and subsequent draws on revolving credit lines associated with the participation agreement. The table below sets forth information about JPMorgan Chase Bank, N.A.'s credit card loans.

(in millions, except ratios)	June 30, 2017	December 31, 2016
Loan delinquency		
Current and less than 30 days past due and still accruing	**$ 36,411**	$ 35,137
30–89 days past due and still accruing	**319**	315
90 or more days past due and still accruing	**328**	321
Total retained credit card loans	**$ 37,058**	$ 35,773
Loan delinquency ratios		
% of 30+ days past due to total retained loans	**1.75%**	1.78%
% of 90+ days past due to total retained loans	**0.89**	0.90
Credit card loans by geographic region		
California	**$ 5,755**	$ 5,483
Texas	**3,735**	3,574
New York	**3,357**	3,197
Florida	**2,313**	2,238
Illinois	**2,093**	2,022
New Jersey	**1,610**	1,574
Ohio	**1,160**	1,145
Pennsylvania	**1,150**	1,140
Colorado	**1,035**	971
Michigan	**904**	889
All other	**13,946**	13,540
Total retained credit card loans	**$ 37,058**	$ 35,773
Percentage of portfolio based on carrying value with estimated refreshed FICO scores		
Equal to or greater than 660	**84.4%**	84.7%
Less than 660	**14.2**	13.9
No FICO available	**1.4**	1.4

Credit card impaired loans and loan modifications

For a detailed discussion of impaired credit card loans, including credit card loan modifications, see Note 15 of JPMorgan Chase Bank, N.A.'s 2016 Annual Financial Statements.

The table below sets forth information about JPMorgan Chase Bank, N.A.'s impaired credit card loans. All of these loans are considered to be impaired as they have been modified in TDRs.

(in millions)	June 30, 2017	December 31, 2016
Impaired credit card loans with an allowance[(a)(b)]		
Credit card loans with modified payment terms[(c)]	**$ 263**	$ 254
Modified credit card loans that have reverted to pre-modification payment terms[(d)]	**28**	31
Total impaired credit card loans[(e)]	**$ 291**	$ 285
Allowance for loan losses related to impaired credit card loans	**$ 89**	$ 83

(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) Represents credit card loans outstanding to borrowers enrolled in a credit card modification program as of the date presented.
(d) Represents credit card loans that were modified in TDRs but that have subsequently reverted back to the loans' pre-modification payment terms. At June 30, 2017, and December 31, 2016, $20 million and $22 million, respectively, of loans have reverted back to the pre-modification payment terms of the loans due to noncompliance with the terms of the modified loans. The remaining $8 million and $9 million at June 30, 2017, and December 31, 2016, respectively, of these loans are to borrowers who have successfully completed a short-term modification program. JPMorgan Chase Bank, N.A. continues to report these loans as TDRs since the borrowers' credit lines remain closed.
(e) 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.

(in millions)	Six months ended June 30, 2017	2016
Average impaired credit card loans	**$ 291**	$ 293
Interest income on impaired credit card loans	**7**	7

Loan modifications

JPMorgan Chase Bank, N.A. may modify loans to credit card borrowers who are experiencing financial difficulty. Most of these loans have been modified under programs that involve placing the customer on a fixed payment plan with a reduced interest rate, generally for 60 months. All of these credit card loan modifications are considered to be TDRs. New enrollments in these loan modification programs were $85 million and $64 million, for the six months ended June 30, 2017 and 2016, respectively. For additional information about credit card loan modifications, see Note 15 of JPMorgan Chase Bank, N.A.'s 2016 Annual Financial Statements.

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.

(in millions, except weighted-average data)	Six months ended June 30, 2017	2016
Weighted-average interest rate of loans – before TDR	**16.35%**	15.54%
Weighted-average interest rate of loans – after TDR	**4.78**	4.82
Loans that redefaulted within one year of modification[(a)]	**$ 11**	$ 8

(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 loans become two payments past due. A substantial portion of these loans is expected to be charged-off in accordance with JPMorgan Chase Bank, N.A.'s standard charge-off policy. Based on historical experience, the estimated weighted-average default rate for modified credit card loans was expected to be 30.70% and 28.87% as of June 30, 2017, and December 31, 2016, respectively.

Wholesale loan portfolio

Wholesale loans include loans made to a variety of customers, 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. For further information on these risk ratings, see Note 15 and Note 16 of JPMorgan Chase Bank, N.A.'s 2016 Annual Financial Statements.

The table below provides information by class of receivable for the retained loans in the Wholesale portfolio segment.

Effective in the first half of 2017, JPMorgan Chase revised its methodology for the assignment of industry classifications, to better monitor and manage concentrations. This largely resulted in the re-assignment of holding companies from Other to the industry of risk category based on the primary business activity of the holding company's underlying companies or enterprises. In the tables below, the prior period amounts have been revised to conform with the current period presentation.

	Commercial and industrial		Real estate		Financial institutions		Government agencies		Other[d]		Total retained loans	
(in millions, except ratios)	**Jun 30, 2017**	Dec 31, 2016	**Jun 30, 2017**	Dec 31, 2016	**Jun 30, 2017**	Dec 31, 2016	**Jun 30, 2017**	Dec 31, 2016	**Jun 30, 2017**	Dec 31, 2016	**Jun 30, 2017**	Dec 31, 2016
Loans by risk ratings												
Investment-grade	**$ 67,485**	$ 64,832	**$ 93,465**	$ 88,649	**$28,670**	$ 29,403	**$ 14,829**	$ 15,053	**$101,746**	$ 95,317	**$306,195**	$ 293,254
Noninvestment-grade:												
Noncriticized	**46,702**	47,330	**15,455**	16,149	**11,516**	10,961	**369**	423	**9,383**	9,708	**83,425**	84,571
Criticized performing	**5,160**	6,187	**826**	798	**316**	200	**–**	6	**94**	162	**6,396**	7,353
Criticized nonaccrual	**1,176**	1,490	**152**	200	**30**	9	**–**	–	**276**	255	**1,634**	1,954
Total noninvestment-grade	**53,038**	55,007	**16,433**	17,147	**11,862**	11,170	**369**	429	**9,753**	10,125	**91,455**	93,878
Total retained loans	**$120,523**	$119,839	**$109,898**	$105,796	**$40,532**	$ 40,573	**$ 15,198**	$ 15,482	**$111,499**	$105,442	**$397,650**	$ 387,132
% of total criticized exposure to total retained loans	**5.26%**	6.41%	**0.89%**	0.94%	**0.85%**	0.52%	**–%**	0.04%	**0.33%**	0.40%	**2.02%**	2.40%
% of criticized nonaccrual to total retained loans	**0.98**	1.24	**0.14**	0.19	**0.07**	0.02	**–**	–	**0.25**	0.24	**0.41**	0.50
Loans by geographic distribution[a]												
Total non-U.S.	**$ 29,632**	$ 30,564	**$ 2,936**	$ 3,303	**$15,161**	$ 15,138	**$ 3,634**	$ 3,726	**$ 41,987**	$ 38,774	**$ 93,350**	$ 91,505
Total U.S.	**90,891**	89,275	**106,962**	102,493	**25,371**	25,435	**11,564**	11,756	**69,512**	66,668	**304,300**	295,627
Total retained loans	**$120,523**	$119,839	**$109,898**	$105,796	**$40,532**	$ 40,573	**$ 15,198**	$ 15,482	**$111,499**	$105,442	**$397,650**	$ 387,132
Loan delinquency[b]												
Current and less than 30 days past due and still accruing	**$119,069**	$117,995	**$109,606**	$105,390	**$40,412**	$ 40,518	**$ 15,191**	$ 15,371	**$110,287**	$104,591	**$394,565**	$ 383,865
30–89 days past due and still accruing	**192**	268	**130**	204	**74**	25	**1**	107	**932**	582	**1,329**	1,186
90 or more days past due and still accruing[c]	**86**	86	**10**	2	**16**	21	**6**	4	**4**	14	**122**	127
Criticized nonaccrual	**1,176**	1,490	**152**	200	**30**	9	**–**	–	**276**	255	**1,634**	1,954
Total retained loans	**$120,523**	$119,839	**$109,898**	$105,796	**$40,532**	$ 40,573	**$ 15,198**	$ 15,482	**$111,499**	$105,442	**$397,650**	$ 387,132

(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. For further discussion, see Note 15 of JPMorgan Chase Bank, N.A.'s 2016 Annual Financial Statements.
(c) Represents loans that are considered well-collateralized and therefore still accruing interest.
(d) Includes loans to: individuals; SPEs; and private education and civic organizations. For more information on exposures to SPEs, see Note 17 of JPMorgan Chase Bank, N.A.'s 2016 Annual Financial Statements.

The following table presents additional information on the real estate class of loans within the Wholesale portfolio segment for the periods indicated. For further information on real estate loans, see Note 15 of JPMorgan Chase Bank, N.A.'s 2016 Annual Financial Statements.

(in millions, except ratios)	Multifamily		Other commercial		Total real estate loans	
	Jun 30, 2017	Dec 31, 2016	**Jun 30, 2017**	Dec 31, 2016	**Jun 30, 2017**	Dec 31, 2016
Real estate retained loans	**$ 75,542**	$ 72,143	**$ 34,356**	$ 33,653	**$ 109,898**	$ 105,796
Criticized exposure	**457**	539	**521**	459	**978**	998
% of total criticized exposure to total real estate retained loans	**0.60%**	0.75%	**1.52%**	1.36%	**0.89%**	0.94%
Criticized nonaccrual	**$ 45**	$ 57	**$ 107**	$ 143	**$ 152**	$ 200
% of criticized nonaccrual loans to total real estate retained loans	**0.06%**	0.08%	**0.31%**	0.42%	**0.14%**	0.19%

Wholesale impaired loans and loan modifications

Wholesale impaired 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 16 of JPMorgan Chase Bank, N.A.'s 2016 Annual Financial Statements.

The table below sets forth information about JPMorgan Chase Bank, N.A.'s wholesale impaired loans.

(in millions)	Commercial and industrial		Real estate		Financial institutions		Government agencies		Other		Total retained loans	
	Jun 30, 2017	Dec 31, 2016	**Jun 30, 2017**	Dec 31, 2016	**Jun 30, 2017**	Dec 31, 2016	**Jun 30, 2017**	Dec 31, 2016	**Jun 30, 2017**	Dec 31, 2016	**Jun 30, 2017**	Dec 31, 2016
Impaired loans												
With an allowance	**$ 942**	$ 1,127	**$ 84**	$ 124	**$ 5**	$ 9	**$ –**	$ –	**$ 211**	$ 180	**$ 1,242**	$ 1,440
Without an allowance[(a)]	**369**	414	**75**	87	**9**	–	**–**	–	**65**	76	**518**	577
Total impaired loans	**$ 1,311**	$ 1,541	**$ 159**	$ 211	**$ 14**	$ 9	**$ –**	$ –	**$ 276**	$ 256	**$ 1,760** [(c)]	$ 2,017 [(c)]
Allowance for loan losses related to impaired loans	**$ 259**	$ 258	**$ 9**	$ 18	**$ 14**	$ 3	**$ –**	$ –	**$ 63**	$ 63	**$ 345**	$ 342
Unpaid principal balance of impaired loans[(b)]	**1,566**	1,754	**237**	295	**14**	12	**–**	–	**214**	284	**2,031**	2,345

(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 June 30, 2017, and December 31, 2016. 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 JPMorgan Chase Bank, N.A.'s average impaired loans for the periods indicated.

(in millions)	Six months ended June 30,	
	2017	2016
Commercial and industrial	**$ 982**	$ 1,411
Real estate	**161**	225
Financial institutions	**4**	11
Government agencies	**–**	–
Other	**205**	189
Total[(a)]	**$ 1,352**	$ 1,836

(a) The related interest income on accruing impaired loans and interest income recognized on a cash basis were not material for the six months ended June 30, 2017 and 2016.

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 table above. TDRs were $745 million and $733 million as of June 30, 2017, and December 31, 2016, respectively.

Note 13 – Allowance for credit losses

For detailed discussion of the allowance for credit losses and the related accounting policies, see Note 16 of JPMorgan Chase Bank, N.A.'s 2016 Annual Financial Statements. During the first half of 2017, JPMorgan Chase Bank, N.A. refined its loss estimates relating to the wholesale portfolio by incorporating the use of internal historical data versus external credit rating agency default statistics to estimate Probability of Default. In addition, an adjustment to the modeled loss estimates for wholesale lending-related commitments was incorporated similar to the adjustment applied for wholesale loans. The impacts of these refinements were not material to the allowance for credit losses.

Allowance for credit losses and loans and lending-related commitments by impairment methodology

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.

	2017				2016			
Six months ended June 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,	**$ 5,195**	**$ 1,042**	**$ 4,478**	**$ 10,715**	5,803	$ 727	$ 4,277	$ 10,807
Gross charge-offs	**1,104**	**600**	**100**	**1,804**	687	464	228	1,379
Gross recoveries	**(306)**	**(52)**	**(70)**	**(428)**	(299)	(45)	(15)	(359)
Net charge-offs/(recoveries)	**798**	**548**	**30**	**1,376**	388	419	213	1,020
Write-offs of PCI loans[(a)]	**46**	**–**	**–**	**46**	88	—	–	88
Provision for loan losses	**449**	**713**	**(332)**	**830**	317	626	760	1,703
Other	**(1)**	**–**	**1**	**–**	–	–	(1)	(1)
Ending balance at June 30,	**$ 4,799**	**$ 1,207**	**$ 4,117**	**$ 10,123**	$ 5,644	$ 934	$ 4,823	$ 11,401
Allowance for loan losses by impairment methodology								
Asset-specific[(b)]	**$ 296**	**$ 89** [(c)]	**$ 345**	**$ 730**	$ 365	$ 79 [(c)]	$ 524	$ 968
Formula-based	**2,238**	**1,118**	**3,772**	**7,128**	2,625	855	4,299	7,779
PCI	**2,265**	**–**	**–**	**2,265**	2,654	–	–	2,654
Total allowance for loan losses	**$ 4,799**	**$ 1,207**	**$ 4,117**	**$ 10,123**	$ 5,644	$ 934	$ 4,823	$ 11,401
Loans by impairment methodology								
Asset-specific	**$ 8,333**	**$ 291**	**$ 1,760**	**$ 10,384**	$ 9,359	$ 287	$ 2,140	$ 11,786
Formula-based	**323,678**	**36,767**	**395,887**	**756,332**	313,281	33,710	374,746	721,737
PCI	**33,064**	**–**	**3**	**33,067**	38,360	–	4	38,364
Total retained loans	**$ 365,075**	**$ 37,058**	**$397,650**	**$ 799,783**	$ 361,000	$ 33,997	$ 376,890	$ 771,887
Impaired collateral-dependent loans								
Net charge-offs	**$ 37**	**$ –**	**$ 16**	**$ 53**	$ 43	$ –	$ 5	$ 48
Loans measured at fair value of collateral less cost to sell	**2,233**	**–**	**296**	**2,529**	2,429	–	295	2,724
Allowance for lending-related commitments								
Beginning balance at January 1,	**$ 26**	**$ –**	**$ 1,052**	**$ 1,078**	$ 14	$ –	$ 772	$ 786
Provision for lending-related commitments	**6**	**–**	**33**	**39**	–	–	174	174
Ending balance at June 30,	**$ 32**	**$ –**	**$ 1,085**	**$ 1,117**	$ 14	$ –	$ 946	$ 960
Allowance for lending-related commitments by impairment methodology								
Asset-specific	**$ –**	$ –	**$ 211**	**$ 211**	$ –	$ –	$ 143	$ 143
Formula-based	**32**	–	**874**	**906**	14	–	803	817
Total allowance for lending-related commitments	**$ 32**	**$ –**	**$ 1,085**	**$ 1,117**	$ 14	$ –	$ 946	$ 960
Lending-related commitments by impairment methodology								
Asset-specific	**$ –**	**$ –**	**$ 750**	**$ 750**	$ –	$ –	$ 460	$ 460
Formula-based	**58,368**	**11,470**	**362,965**	**432,803**	59,434	10,743	351,705	421,882
Total lending-related commitments	**$ 58,368**	**$ 11,470**	**$363,715**	**$ 433,553**	$ 59,434	$ 10,743	$ 352,165	$ 422,342

Note: In the first half of 2017, JPMorgan Chase Bank, N.A. transferred the student loan portfolio to held-for-sale. For additional information see Note 23.

(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 (e.g., upon liquidation).

(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 14 – Variable interest entities

For a further description of JPMorgan Chase Bank, N.A.'s accounting policies regarding consolidation of VIEs, see Note 1 of JPMorgan Chase Bank, N.A.'s 2016 Annual Financial Statements.

The following table summarizes the most significant types of JPMorgan Chase Bank, N.A.-sponsored VIEs by business.

JPMorgan Chase Bank, N.A. business	*Transaction Type*	*Activity*	*Consolidated Financial Statements page reference*
Consumer & community banking	Mortgage securitization trusts	Servicing and securitization of both originated and purchased residential mortgages	59-61
Corporate & investment banking	Mortgage and other securitization trusts	Securitization of both originated and purchased residential and commercial mortgages, and student loans	59-61
	Multi-seller conduits Investor intermediation activities	Assist clients in accessing the financial markets in a cost-efficient manner and structures transactions to meet investor needs	61

JPMorgan Chase Bank, N.A. also invests in and provides financing and other services to VIEs sponsored by third parties, as described on page 62 of this Note.

Significant JPMorgan Chase Bank, N.A.-sponsored variable interest entities

Mortgage and other securitization trusts

JPMorgan Chase Bank, N.A. securitizes (or has securitized) originated and purchased residential mortgages, commercial mortgages and other consumer loans (including student loans) primarily in its consumer & community banking and corporate & investment banking businesses. Depending on the particular transaction, as well as the respective business involved, JPMorgan Chase Bank, N.A. may act as the servicer of the loans and/or retain certain beneficial interests in the securitization trusts.

For a detailed discussion of JPMorgan Chase Bank, N.A.'s involvement with JPMorgan Chase Bank, N.A.-sponsored mortgage and other securitization trusts, as well as the accounting treatment relating to such trusts, see Note 17 of JPMorgan Chase Bank, N.A.'s 2016 Annual Financial Statements.

The following table presents the total unpaid principal amount of assets held in JPMorgan Chase Bank, N.A.-sponsored private-label securitization entities, including those in which JPMorgan Chase Bank, N.A. has continuing involvement, and those that are consolidated by JPMorgan Chase Bank, N.A. Continuing involvement includes servicing the loans, holding senior interests or subordinated interests, recourse or guarantee arrangements, and derivative transactions. In certain instances, JPMorgan Chase Bank, N.A.'s only continuing involvement is servicing the loans. See Securitization activity on page 63 of this Note for further information regarding JPMorgan Chase Bank, N.A.'s cash flows with and interests retained in nonconsolidated VIEs, and page 63 of this Note for information on JPMorgan Chase Bank, N.A.'s loan sales to U.S. government agencies.

	Principal amount outstanding			JPMorgan Chase Bank, N.A. interest in securitized assets in nonconsolidated VIEs[c][d]		
June 30, 2017 (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	AFS securities	Total interests held by JPMorgan Chase Bank, N.A
Securitization-related[a]						
Residential mortgage:						
Prime/Alt-A and option ARMs	**$ 49,600**	**$ 3,927**	**$ 39,506**	**$ 161**	**$ 1,007**	**$ 1,168**
Subprime	**13,472**	**—**	**12,687**	**—**	**—**	**—**
Commercial and other[b]	**87,973**	**95**	**16,452**	**—**	**1,251**	**1,251**
Total	**$ 151,045**	**$ 4,022**	**$ 68,645**	**$ 161**	**$ 2,258**	**$ 2,419**

	Principal amount outstanding			JPMorgan Chase Bank, N.A. interest in securitized assets in nonconsolidated VIEs[c][d]		
December 31, 2016 (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	AFS securities	Total interests held by JPMorgan Chase Bank, N.A.
Securitization-related[a]						
Residential mortgage:						
Prime/Alt-A and option ARMs	$ 52,258	$ 4,209	$ 42,881 [e]	$ 124	$ 1,203	$ 1,327
Subprime	14,260	—	13,421	—	—	—
Commercial and other[b]	91,084	107	22,989 [e]	3	1,712	1,715
Total	$ 157,602	$ 4,316	$ 79,291 [e]	$ 127	$ 2,915	$ 3,042

(a) Excludes U.S. government agency securitizations, which are not JPMorgan Chase Bank, N.A.-sponsored. See page 63 of this Note for information on JPMorgan Chase Bank, N.A.'s loan sales to U.S. government agencies.
(b) Consists of securities backed by commercial loans (predominantly real estate) and non-mortgage-related consumer receivables purchased from third parties.
(c) Excludes the following: retained servicing (see Note 15 for a discussion of MSRs); securities retained from loan sales to U.S. government agencies; and interest rate and foreign exchange derivatives primarily used to manage interest rate and foreign exchange risks of securitization entities (See Note 5 for further information on derivatives). There were no senior and subordinated securities purchased in connection with the corporate & investment banking business's secondary market-making activities at June 30, 2017, and December 31, 2016, respectively.
(d) As of June 30, 2017, and December 31, 2016, 95% and 88%, respectively, of JPMorgan Chase Bank, N.A.'s retained securitization interests, which are 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 $11 million and $44 million of noninvestment-grade retained interests at June 30, 2017, and December 31, 2016, respectively. The retained interests in commercial and other securitizations trusts consisted of $1.3 billion and $1.7 billion of investment-grade at June 30, 2017, and December 31, 2016, respectively, and zero noninvestment-grade for both periods.
(e) Prior period results were revised to conform with the current period presentation.

Residential mortgage
JPMorgan Chase Bank, N.A. securitizes residential mortgage loans originated by consumer & community banking business, as well as residential mortgage loans purchased from third parties by either consumer & community banking or corporate & investment banking business. For a more detailed description of JPMorgan Chase Bank, N.A.'s involvement with residential mortgage securitizations, see Note 17 of JPMorgan Chase Bank, N.A.'s 2016 Annual Financial Statements. See the table on page 62 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
The corporate & investment banking business originates and securitizes commercial mortgage loans, and engages in underwriting and trading activities involving the securities issued by securitization trusts. For a more detailed description of JPMorgan Chase Bank, N.A.'s involvement with commercial mortgage and other consumer securitizations, see Note 17 of JPMorgan Chase Bank, N.A.'s 2016 Annual Financial Statements. See the table on page 62 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.

Credit card securitizations
For a more detailed discussion of JPMorgan Chase Bank, N.A.'s involvement with credit card securitizations, see Note 17 of JPMorgan Chase Bank, N.A.'s 2016 Annual Financial Statements.

Multi-seller conduits
For a more detailed description of JPMorgan Chase Bank, N.A.'s principal involvement with JPMorgan Chase Bank, N.A.-administered multi-seller conduits, see Note 17 of JPMorgan Chase Bank, N.A.'s 2016 Annual Financial Statements.

In the normal course of business, JPMorgan Chase Bank, N.A. makes markets in and invests in commercial paper issued by JPMorgan Chase Bank, N.A.-administered multi-seller conduits. JPMorgan Chase Bank, N.A. held $22.1 billion and $21.2 billion of the commercial paper issued by JPMorgan Chase Bank, N.A.-administered multi-seller conduits at June 30, 2017, and December 31, 2016, which have been eliminated in consolidation. JPMorgan Chase Bank, N.A.'s investments reflect JPMorgan Chase Bank, N.A.'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, JPMorgan Chase Bank, N.A. is not obligated under any agreement to purchase the commercial paper issued by JPMorgan Chase Bank, N.A.-administered multi-seller conduits.

JPMorgan Chase Bank, N.A. provides deal-specific liquidity as well as program-wide liquidity and credit enhancement to its administered multi-seller conduits, which have been eliminated in consolidation. The administered multi-seller conduits then provide certain of their clients with lending-related commitments. The unfunded commitments were $8.2 billion and $7.4 billion at June 30, 2017, and December 31, 2016, respectively, and are reported as off-balance sheet lending-related commitments. For more information on off-balance sheet lending-related commitments, see Note 20.

VIEs associated with investor intermediation activities

Municipal bond vehicles
For a more detailed description of JPMorgan Chase Bank, N.A.'s investor intermediation activities, see Note 17 of JPMorgan Chase Bank, N.A.'s 2016 Annual Financial Statements.

JPMorgan Chase Bank, N.A.'s maximum exposure as a liquidity provider to nonconsolidated JPMorgan Chase Bank, N.A.-sponsored municipal bond VIEs at June 30, 2017 and December 31, 2016, was $161 million and $662 million, respectively.

VIEs sponsored by third parties

JPMorgan Chase Bank, N.A. enters into transactions with VIEs structured by other parties. These include, for example, acting as a derivative counterparty, liquidity provider, investor, underwriter, placement 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 JPMorgan Chase Bank, N.A. 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, JPMorgan Chase Bank, N.A. 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.

Consolidated VIE assets and liabilities

The following table presents information on assets and liabilities related to VIEs consolidated by JPMorgan Chase Bank, N.A. as of June 30, 2017, and December 31, 2016.

	Assets				Liabilities		
June 30, 2017 (in millions)	Trading assets	Loans	Other[(d)]	Total assets[(e)]	Beneficial interests in VIE assets[(f)]	Other[(g)]	Total liabilities
VIE program type[(a)]							
JPMorgan Chase Bank, N.A.-administered multi-seller conduits	**$ 2**	**$ 25,039**	**$ 43**	**$ 25,084**	**$ 2,928**	**$ 55**	**$ 2,983**
Municipal bond vehicles	**2,415**	**—**	**6**	**2,421**	**1,660**	**2**	**1,662**
Mortgage securitization entities[(b)]	**—**	**3,976**	**72**	**4,048**	**335**	**273**	**608**
Student loan securitization entities[(c)]	**—**	**—**	**—**	**—**	**—**	**—**	**—**
Other	**58**	**—**	**1,640**	**1,698**	**139**	**2**	**141**
Total	**$ 2,475**	**$ 29,015**	**$ 1,761**	**$ 33,251**	**$ 5,062**	**$ 332**	**$ 5,394**

	Assets				Liabilities		
December 31, 2016 (in millions)	Trading assets	Loans	Other[(d)]	Total assets[(e)]	Beneficial interests in VIE assets[(f)]	Other[(g)]	Total liabilities
VIE program type[(a)]							
JPMorgan Chase Bank, N.A.-administered multi-seller conduits	$ —	$ 23,760	$ 43	$ 23,803	$ 2,719	$ 56	$ 2,775
Municipal bond vehicles	2,540	—	5	2,545	2,673	2	2,675
Mortgage securitization entities[(b)]	—	4,246	103	4,349	355	313	668
Student loan securitization entities[(c)]	—	1,689	59	1,748	1,527	4	1,531
Other	115	—	1,940	2,055	177	2	179
Total	$ 2,655	$ 29,695	$ 2,150	$ 34,500	$ 7,451	$ 377	$ 7,828

(a) Excludes intercompany transactions which were eliminated in consolidation.
(b) Includes residential and commercial mortgage securitizations.
(c) JPMorgan Chase Bank, N.A. deconsolidated the student loan securitization entities in the first half of 2017 as it no longer had a controlling financial interest in these entities as a result of the sale of the student loan portfolio. For additional information see Note 23.
(d) Includes assets classified as cash, and other assets on the Consolidated balance sheets.
(e) The assets of the consolidated VIEs included in the program types above are used to settle the liabilities of those entities. The difference between total assets and total liabilities recognized for consolidated VIEs represents JPMorgan Chase Bank, N.A.'s interest in the consolidated VIEs for each program type.
(f) 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 do not have recourse to the general credit of JPMorgan Chase Bank, N.A. Included in beneficial interests in VIE assets are long-term beneficial interests of $473 million and $2.1 billion at June 30, 2017, and December 31, 2016, respectively. The maturities of the long-term beneficial interests as of June 30, 2017, were as follows: $39 million under one year, $99 million between one and five years, and $335 million over five years.
(g) Includes liabilities classified as accounts payable and other liabilities on the Consolidated balance sheets.

Loan securitizations

JPMorgan Chase Bank, N.A. has securitized and sold a variety of loans, including residential mortgage, credit card, student and commercial (primarily related to real estate) loans. For a further description of JPMorgan Chase Bank, N.A.'s accounting policies regarding securitizations, see Note 17 of JPMorgan Chase Bank, N.A.'s 2016 Annual Financial Statements.

Securitization activity

The following table provides information related to JPMorgan Chase Bank, N.A.'s securitization activities for the six months ended June 30, 2017 and 2016, related to assets held in JPMorgan Chase Bank, N.A.-sponsored securitization entities that were not consolidated by JPMorgan Chase Bank, N.A., and where sale accounting was achieved based on the accounting rules in effect at the time of the securitization.

	Six months ended June 30,					
	2017			2016		
(in millions)	Credit card[b]	Residential mortgage[c]	Commercial and other[d]	Credit card[b]	Residential mortgage[c]	Commercial and other[d]
Principal securitized	$ –	$ **2,049**	$ **3,312**	$ 1,530	$ 413	$ 2,358
All cash flows during the period:						
Proceeds received from loan sales as cash	$ –	$ **2,083**	$ **3,377**	$ 1,530	$ 413	$ 2,371
Proceeds received from loan sales as securities in Level 2	–	–	–	–	–	–
Total proceeds received from loan sales	–	**2,083**	**3,377**	1,530	413	2,371
Servicing fees collected	–	**267**	**1**	–	223	1
Proceeds from collections reinvested in revolving securitizations	–	–	–	21,768	–	–
Purchases of previously transferred financial assets (or the underlying collateral)[a]	–	**1**	–	–	37	–
Cash flows received on interests	–	**224**	**416**	6,442	189	349

(a) Includes cash paid by JPMorgan Chase Bank, N.A. to reacquire assets from off-balance sheet, nonconsolidated entities – for example, loan repurchases due to representation and warranties and servicer clean-up calls.
(b) For the six months ended June 30, 2016, includes securitization activity related to JPMorgan Chase Bank, N.A.'s undivided interest in credit card securitization trusts. On November 1, 2016, JPMorgan Chase Bank, N.A. sold its undivided interests in the Trusts to an affiliate.
(c) Includes prime, Alt-A, subprime, and option ARMs. Excludes certain loan securitization transactions entered into with Ginnie Mae, Fannie Mae and Freddie Mac.
(d) Includes commercial mortgage and student loan securitizations.

Loans and excess MSRs sold to U.S. government-sponsored enterprises, loans in securitization transactions pursuant to Ginnie Mae guidelines, and other third-party-sponsored securitization entities

In addition to the amounts reported in the securitization activity tables above, JPMorgan Chase Bank, N.A., 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. government-sponsored enterprises ("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). JPMorgan Chase Bank, N.A. also sells loans into securitization transactions pursuant to Ginnie Mae guidelines; these loans are typically insured or guaranteed by another U.S. government agency. JPMorgan Chase Bank, N.A. does not consolidate the securitization vehicles underlying these transactions as it is not the primary beneficiary. For a limited number of loan sales, JPMorgan Chase Bank, N.A. is obligated to share a portion of the credit risk associated with the sold loans with the purchaser. See Note 20 of these Consolidated Financial Statements, and Note 27 of JPMorgan Chase Bank, N.A.'s 2016 Annual Financial Statements for additional information about JPMorgan Chase Bank, N.A.'s loan sales- and securitization-related indemnifications. See Note 15 for additional information about the impact of JPMorgan Chase Bank, N.A.'s sale of certain excess MSRs. The following table summarizes the activities related to loans sold to the U.S. GSEs, loans in securitization transactions pursuant to Ginnie Mae guidelines, and other third-party-sponsored securitization entities.

	Six months ended June 30,	
(in millions)	**2017**	2016
Carrying value of loans sold	$ **28,880**	$ 17,836
Proceeds received from loan sales as cash	**13**	238
Proceeds received from loans sales as securities[a]	**28,589**	17,503
Total proceeds received from loan sales[b]	$ **28,602**	$ 17,741
Gains on loan sales[c][d]	$ **73**	$ 114

(a) Predominantly includes securities from U.S. GSEs and Ginnie Mae that are generally sold shortly after receipt.
(b) Excludes the value of MSRs retained upon the sale of loans.
(c) Gains on loan sales include the value of MSRs.
(d) 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 JPMorgan Chase Bank, N.A.'s obligation to repurchase certain loans due to material breaches of representations and warranties as discussed in Note 20, JPMorgan Chase Bank, N.A. 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. JPMorgan Chase Bank, N.A. 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 JPMorgan Chase Bank, N.A.'s repurchase option becomes exercisable, such loans must be reported on the Consolidated balance sheets as a loan with a corresponding liability. For additional information, refer to Note 12 of these Consolidated Financial Statements and Note 15 of JPMorgan Chase Bank, N.A.'s 2016 Annual Financial Statements.

The following table presents loans JPMorgan Chase Bank, N.A. repurchased or had an option to repurchase, real estate owned, and foreclosed government-guaranteed residential mortgage loans recognized on JPMorgan Chase Bank, N.A.'s balance sheet as of June 30, 2017 and December 31, 2016. Substantially all of these loans and real estate are insured or guaranteed by U.S. government agencies.

(in millions)	June 30, 2017	December 31, 2016
Loans repurchased or option to repurchase[(a)]	**$ 8,731**	$ 9,543
Real estate owned	**105**	142
Foreclosed government-guaranteed residential mortgage loans[(b)]	**762**	1,007

(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 JPMorgan Chase Bank, N.A.-sponsored private-label securitization entities, in which JPMorgan Chase Bank, N.A. has continuing involvement, and delinquencies as of June 30, 2017, and December 31, 2016.

	Securitized assets		90 days past due		Liquidation losses Six months ended June 30,	
(in millions)	Jun 30, 2017	Dec 31, 2016	Jun 30, 2017	Dec 31, 2016	2017	2016
Securitized loans						
Residential mortgage:						
Prime / Alt-A & option ARMs	**$ 39,506**	$ 42,881 (a)	**$ 3,531**	$ 4,026 (a)	**$ 270**	$ 374 (a)
Subprime	**12,687**	13,421	**2,291**	2,635	**235**	408
Commercial and other	**16,452**	22,989 (a)	**111**	653 (a)	**1**	344 (a)
Total loans securitized	**$ 68,645**	$ 79,291	**$ 5,933**	$ 7,314	**$ 506**	$ 1,126

(a) Prior period results were revised to conform with the current period presentation.

Note 15 – Goodwill and Mortgage servicing rights

For a discussion of the accounting policies related to goodwill and mortgage servicing rights, see Note 18 of JPMorgan Chase Bank, N.A.'s 2016 Annual Financial Statements.

Goodwill

The following table presents changes in the carrying amount of goodwill.

	Six months ended June 30,	
(in millions)	2017	2016
Balance at beginning of period[(a)]	**$ 27,130**	$ 27,100
Changes during the period from:		
Other[(b)]	**12**	42
Balance at June 30,[(a)]	**$ 27,142**	$ 27,142

(a) Reflects gross goodwill balances as JPMorgan Chase Bank, N.A. has not recognized any impairment losses to date.
(b) Includes foreign currency translation adjustments and other tax-related adjustments.

Impairment testing

Goodwill was not impaired at June 30, 2017, or December 31, 2016.

Declines in business performance, increases in credit losses, increases in equity capital requirements, as well as deterioration in economic or market conditions, estimates of adverse regulatory or legislative changes or increases in the estimated market cost of equity, could cause the estimated fair values of JPMorgan Chase Bank, N.A., or its 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. For a further description of the MSR asset, interest rate risk management, and the valuation of MSRs, see Note 18 of JPMorgan Chase Bank, N.A. Chase's 2016 Annual Financial Statements and Note 3 of these Consolidated Financial Statements.

The following table summarizes MSR activity for the six months ended June 30, 2017 and 2016.

	As of or for the six months ended June 30,	
(in millions, except where otherwise noted)	**2017**	2016
Fair value at beginning of period	**$ 6,096**	$ 6,608
MSR activity:		
Originations of MSRs	**371**	220
Purchase of MSRs	**—**	—
Disposition of MSRs[a]	**(138)**	(67)
Net additions	**233**	153
Changes due to collection/realization of expected cash flows	**(419)**	(480)
Changes in valuation due to inputs and assumptions:		
Changes due to market interest rates and other[b]	**(121)**	(1,195)
Changes in valuation due to other inputs and assumptions:		
Projected cash flows (e.g., cost to service)	**14**	(7)
Discount rates	**(19)**	7
Prepayment model changes and other[c]	**(31)**	(14)
Total changes in valuation due to other inputs and assumptions	**(36)**	(14)
Total changes in valuation due to inputs and assumptions	**(157)**	(1,209)
Fair value at June 30,	**$ 5,753**	$ 5,072
Change in unrealized gains/(losses) included in income related to MSRs held at June 30,	**$ (157)**	$ (1,209)
Contractual service fees, late fees and other ancillary fees included in income	**$ 964**	$ 1,106
Third-party mortgage loans serviced at June 30, (in billions)	**$ 569**	$ 632
Net servicer advances at June 30, (in billions)[d]	**$ 4.1**	$ 5.6

(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; JPMorgan Chase Bank, N.A. 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 JPMorgan Chase Bank, N.A. 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. JPMorgan Chase Bank, N.A.'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, JPMorgan Chase Bank, N.A. 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.

The table below outlines the key economic assumptions used to determine the fair value of JPMorgan Chase Bank, N.A.'s MSRs at June 30, 2017, and December 31, 2016, and outlines the sensitivities of those fair values to immediate adverse changes in those assumptions, as defined below.

(in millions, except rates)	Jun 30, 2017	Dec 31, 2016
Weighted-average prepayment speed assumption ("CPR")	**9.62%**	9.41%
Impact on fair value of 10% adverse change	**$ (216)**	$ (231)
Impact on fair value of 20% adverse change	**(415)**	(445)
Weighted-average option adjusted spread	**9.18%**	8.55%
Impact on fair value of a 100 basis point adverse change	**$ (232)**	$ (248)
Impact on fair value of a 200 basis point adverse change	**(446)**	(477)

CPR: Constant prepayment rate.

The sensitivity analysis in the preceding table is hypothetical and should be used with caution. Changes in fair value based on variation 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 could either magnify or counteract the impact of the initial change.

Note 16 – Deposits

For further discussion on deposits, see Note 20 of JPMorgan Chase Bank, N.A.'s 2016 Annual Financial Statements.

At June 30, 2017, and December 31, 2016, noninterest-bearing and interest-bearing deposits were as follows.

(in millions)	June 30, 2017	December 31, 2016
U.S. offices		
Noninterest-bearing	**$ 399,267**	$ 405,536
Interest-bearing (included **$14,331** and $12,298 at fair value)[(a)]	**870,850**	830,735
Total deposits in U.S. offices	**1,270,117**	1,236,271
Non-U.S. offices		
Noninterest-bearing	**17,716**	15,072
Interest-bearing (included **$3,469** and $1,667 at fair value)[(a)]	**251,990**	228,895
Total deposits in non-U.S. offices	**269,706**	243,967
Total deposits	**$ 1,539,823**	$ 1,480,238

(a) Includes structured notes classified as deposits for which the fair value option has been elected. For further discussion, see Note 5 of JPMorgan Chase Bank, N.A.'s 2016 Annual Financial Statements.

Note 17 – Related party transactions

JPMorgan Chase Bank, N.A. regularly enters into transactions with JPMorgan Chase and its various subsidiaries.

Significant revenue- and expense-related transactions with related parties are listed below.

	Six months ended June 30,	
(in millions)	**2017**	2016
Interest income	**$ 431**	$ 255
Interest expense	**565**	292
Noninterest revenue[(a)]	**2,884**	3,533
Noninterest expense[(a)]	**2,932**	2,479

(a) The prior period amounts have been revised to conform with the current presentation.

Significant balances with related parties are listed below.

(in millions)	**June 30, 2017**	December 31, 2016
Assets		
Deposits with banks[(a)]	**$ 39,506**	$ 32,500
Federal funds sold and securities purchased under resale agreements	**41,058**	72,097
Accrued interest and accounts receivable	**13,083**	11,936
All other assets	**12,869**	12,305
Liabilities		
Deposits[(b)]	**102,450**	107,749
Federal funds purchased and securities loaned or sold under repurchase agreements	**16,436**	14,501
Accounts payable and other liabilities	**11,290**	12,118
Long-term debt	**21,161**	21,630

(a) Primarily includes deposits placed with Chase Bank USA, N.A.

(b) Includes $20.0 billion at both June 30, 2017 and December 31, 2016, pledged to support extensions of credit and other transactions requiring collateral with affiliates as defined by Section 23A under the Federal Reserve Act, which defines the constraints that apply to U.S. banks in certain of their interactions with affiliates.

Derivative transactions

In addition to the information presented in the tables above, JPMorgan Chase Bank, N.A. executes derivative transactions with affiliates as part of its client driven market-making activities and to facilitate hedging certain risks for its affiliates. To accomplish this, JPMorgan Chase Bank, N.A. enters into substantially offsetting derivative transactions with third-parties and records both the third party and related-party gains and losses in noninterest revenue. The following table summarizes information on derivative receivables and payables with affiliates before and after netting adjustments for legally enforceable master netting agreements as of June 30, 2017 and December 31, 2016.

	June 30, 2017		December 31, 2016	
(in millions)	Gross derivative receivable/payable	Net derivative receivable/payable	Gross derivative receivable/payable	Net derivative receivable/payable
Derivative receivables from affiliates	**$ 45,952**	**$ 2,153**	$ 44,023	$ 1,363
Derivative payables to affiliates	**46,069**	**2,271**	44,185	1,524

Servicing agreements and fee arrangements

Through servicing agreements, JPMorgan Chase Bank, N.A. provides and receives operational support and services to and from JPMorgan Chase and its subsidiaries. These servicing agreements cover certain occupancy, marketing, communication and technology services, and other shared corporate service costs. JPMorgan Chase Bank, N.A. is allocated or allocates a share of the cost of the services over the relevant service period based on the agreed methodology. Fees earned by JPMorgan Chase Bank, N.A. for services provided to affiliates are recorded in all other income, and fees incurred by JPMorgan Chase Bank, N.A. for services from affiliates are recorded in noninterest expense.

Note 18 – 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), cash flow hedging activities, net loss and prior service costs/(credit) related to JPMorgan Chase Bank, N.A.'s defined benefit pension and OPEB plans.

As of or for the six months ended June 30, 2017 (in millions)	Unrealized gains/(losses) on investment securities[b]	Translation adjustments, net of 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, 2017	**$ 1,396**	**$ (36)**	**$ (100)**	**$ (355)**	**$ (40)**	**$ 865**
Net change	**708**	**(7)**	**146**	**(41)**	**(14)**	**792**
Balance at June 30, 2017	**$ 2,104**	**$ (43)**	**$ 46**	**$ (396)**	**$ (54)**	**$ 1,657**

As of or for the six months ended June 30, 2016 (in millions)	Unrealized gains/(losses) on investment securities[a]	Translation adjustments, net of 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, 2016	$ 2,433	$ (40)	$ (45)	$ (328)	NA	$ 2,020
Cumulative effect of change in accounting principle[a]	–	–	–	–	11	11
Net change	1,283	2	(156)	28	28	1,185
Balance at June 30, 2016	$ 3,716	$ (38)	$ (201)	$ (300)	39	$ 3,216

(a) Effective January 1, 2016, JPMorgan Chase Bank, N.A. adopted new accounting guidance related to the recognition and measurement of financial liabilities where the fair value option has been elected. This guidance requires the portion of the total change in fair value caused by changes in JPMorgan Chase Bank, N.A.'s own credit risk (DVA) to be presented separately in OCI; previously these amounts were recognized in net income.

(b) Represents the after-tax difference between the fair value and amortized cost of securities accounted for as AFS, including net unamortized unrealized gains and losses related to AFS securities transferred to HTM.

The following table presents the pre-tax and after-tax changes in the components of OCI.

	2017			2016		
Six months ended June 30, (in millions)	Pre-tax	Tax effect	After-tax	Pre-tax	Tax effect	After-tax
Unrealized gains/(losses) on investment securities:						
Net unrealized gains/(losses) arising during the period	**$ 1,082**	**$ (397)**	**$ 685**	$ 2,126	$ (799)	$ 1,327
Reclassification adjustment for realized (gains)/losses included in net income[(a)]	**37**	**(14)**	**23**	(71)	27	(44)
Net change	**1,119**	**(411)**	**708**	2,055	(772)	1,283
Translation adjustments:[(b)]						
Translation	**612**	**(233)**	**379**	726	(270)	456
Hedges	**(614)**	**228**	**(386)**	(721)	267	(454)
Net change	**(2)**	**(5)**	**(7)**	5	(3)	2
Cash flow hedges:						
Net unrealized gains/(losses) arising during the period	**83**	**(31)**	**52**	(354) [(e)]	134 [(e)]	(220) [(e)]
Reclassification adjustment for realized (gains)/losses included in net income[(c)]	**151**	**(57)**	**94**	103 [(e)]	(39) [(e)]	64 [(e)]
Net change	**234**	**(88)**	**146**	(251)	95	(156)
Defined benefit pension and OPEB plans:						
Net gains/(losses) arising during the period	**(45)**	**17**	**(28)**	(2)	1	(1)
Reclassification adjustments included in net income[(d)]:						
Amortization of net loss	**16**	**(6)**	**10**	12	(5)	7
Prior service costs/(credits)	**(1)**	**–**	**(1)**	(1)	–	(1)
Settlement (gain)/loss	**(3)**	**1**	**(2)**	–	–	–
Foreign exchange and other	**(30)**	**10**	**(20)**	37	(14)	23
Net change	**(63)**	**22**	(41)	46	(18)	28
DVA on fair value option elected liabilities, net change:	**$ (21)**	**$ 7**	**$ (14)**	$ 44	$ (16)	$ 28
Total other comprehensive income/(loss)	**$ 1,267**	**$ (475)**	**$ 792**	$ 1,899	$ (714)	$ 1,185

(a) The pre-tax amount is reported in securities gains/(losses) in the Consolidated statements of income.
(b) 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. The amounts were not material for the periods presented.
(c) The pre-tax amounts are predominantly recorded in net interest income in the Consolidated statements of income.
(d) The pre-tax amount is reported in compensation expense in the Consolidated statements of income.
(e) Prior period results were revised to conform with the current period presentation.

Note 19 – Regulatory capital

JPMorgan Chase Bank, N.A.'s banking regulator, the OCC, establishes capital requirements, including well-capitalized standards for national banks.

Basel III overview

Capital rules under Basel III establish minimum capital ratios and overall capital adequacy standards for large and internationally active U.S. banks, including JPMorgan Chase Bank, N.A., Basel III sets forth two comprehensive approaches for calculating RWA: a standardized approach ("Basel III Standardized"), and an advanced approach ("Basel III Advanced"). Certain of the requirements of Basel III are subject to phase-in periods that began on January 1, 2014 and continue through the end of 2018 ("transitional period").

Definition of capital

There are three categories of risk-based capital under the Basel III Transitional rules: CET1 capital, Tier 1 capital and Tier 2 capital. CET1 capital predominantly includes common stockholder's equity (including capital for AOCI related to debt and equity securities classified as AFS as well as for defined benefit pension and OPEB plans), less certain deductions for goodwill, MSRs and deferred tax assets that arise from NOL and tax credit carryforwards. Tier 1 capital predominantly consists of CET1 capital as well as perpetual preferred stock. Tier 2 capital includes long-term debt qualifying as Tier 2 and qualifying allowance for credit losses. Total capital is Tier 1 capital plus Tier 2 capital.

Risk-weighted assets

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

Supplementary leverage ratio ("SLR")

Basel III also includes a requirement for Advanced Approach banking organizations to calculate a SLR. The SLR is defined as Tier 1 capital under Basel III divided by JPMorgan Chase Bank, N.A.'s total leverage exposure. Total leverage exposure is calculated by taking JPMorgan Chase Bank, N.A.'s total average on-balance sheet assets, less amounts permitted to be deducted for Tier 1 capital, and adding certain off-balance sheet exposures, such as undrawn commitments and derivatives potential future exposure. JPMorgan Chase Bank, N.A. is required to have a minimum SLR of at least 6%, beginning January 1, 2018.

Risk-based capital regulatory minimums

The capital adequacy of JPMorgan Chase Bank, N.A., both during the transitional period and upon full phase-in, is evaluated against the lower of the two ratios as calculated under the Basel III approaches (Standardized or Advanced) as required by the Collins Amendment of the Dodd-Frank Act (the "Collins Floor").

The Basel III rules include minimum capital ratio requirements that are subject to phase-in periods through the end of 2018. In addition to having to maintain the common equity tier 1 ("CET1") minimum capital ratio of 4.5%, JPMorgan Chase Bank, N.A. is required to hold additional amounts of capital to serve as a "capital conservation buffer." The capital conservation buffer is intended to be used to absorb potential losses in times of financial or economic stress. If not maintained, JPMorgan Chase Bank, N.A. could be limited in the amount of capital that may be distributed. The capital conservation buffer is to be phased-in over time, beginning January 1, 2016 through January 1, 2019. When fully phased-in, JPMorgan Chase Bank, N.A. will be required to hold a 2.5% capital conservation buffer.

The countercyclical capital buffer takes into account the macro financial environment in which large, internationally active banks function. As of October 24, 2016 the Federal Reserve reaffirmed setting the U.S. countercyclical capital buffer at 0%, and stated that it will review the amount at least annually. The countercyclical capital buffer can be increased if the Federal Reserve, FDIC and OCC determine that credit growth in the economy has become excessive and can be set at up to an additional 2.5% of RWA subject to a 12-month implementation period.

Under the risk-based capital guidelines of the OCC, JPMorgan Chase Bank, N.A. is required to maintain minimum ratios of CET1, Tier 1 and Total capital to RWA, as well as a minimum leverage ratio (which is defined as Tier 1 capital divided by adjusted quarterly average assets). Failure to meet these minimum requirements could cause the OCC to take action. In addition, JPMorgan Chase Bank, N.A. must maintain a minimum 6.5% CET1, 8% Tier 1 capital, 10% Total capital and 5% Tier 1 leverage requirement to meet the definition of "well-capitalized" under the regulations issued by the Federal Reserve and the Prompt Corrective Action ("PCA") requirements of the FDIC Improvement Act ("FDICIA"). The following table presents the minimum and well-capitalized ratios to which JPMorgan Chase Bank, N.A. is subject as of June 30, 2017.

	Minimum capital ratios[(a)(c)]	Well-capitalized ratios[(b)]
Capital ratios		
CET1	5.75%	6.5%
Tier 1	7.25	8.0
Total	9.25	10.0
Tier 1 leverage	4.0	5.0

Note: The table above is as defined by the regulations issued by the OCC and FDIC and to which JPMorgan Chase Bank, N.A. and its subsidiaries are subject.

(a) Represents requirements for JPMorgan Chase Bank, N.A. The CET1 minimum capital ratio includes 1.25% resulting from the phase in of the 2.5% capital

conservation buffer that is applicable to banking subsidiaries. JPMorgan Chase Bank, N.A. is not subject to the globally systemically important banks ("GSIB") surcharge, which applies to JPMorgan Chase.

(b) Represents requirements for bank subsidiaries pursuant to regulations issued under the FDIC Improvement Act.

(c) For the period ended December 31, 2016 the CET1, Tier 1, Total and Tier 1 leverage minimum capital ratios applicable to JPMorgan Chase Bank, N.A. were 5.125%, 6.625%, 8.625% and 4.0% respectively.

As of June 30, 2017, and December 31, 2016, JPMorgan Chase Bank, N.A. was well-capitalized and met all capital requirements to which it was subject.

The following table presents the risk-based and leverage-based capital metrics for JPMorgan Chase Bank, N.A. under both the Basel III Standardized Transitional and Basel III Advanced Transitional approaches at June 30, 2017, and December 31, 2016.

	Basel III Standardized Transitional		Basel III Advanced Transitional	
(in millions, except ratios)	**Jun 30, 2017**	Dec 31, 2016	**Jun 30, 2017**	Dec 31, 2016
Regulatory capital				
CET1 capital	**$ 184,141**	$ 179,319	**$ 184,141**	$ 179,319
Tier 1 capital[a]	**184,141**	179,341	**184,141**	179,341
Total capital	**195,851**	191,662	**189,381**	184,637
Assets				
Risk-weighted	**1,304,939**	1,293,203	**1,245,670**	1,262,613
Adjusted average[b]	**2,107,302**	2,088,851	**2,107,302**	2,088,851
Capital ratios[c]				
CET1	**14.1%**	13.9%	**14.8%**	14.2%
Tier 1[a]	**14.1**	13.9	**14.8**	14.2
Total	**15.0**	14.8	**15.2**	14.6
Tier 1 leverage[d]	**8.7**	8.6	**8.7**	8.6

(a) Includes the deduction associated with the permissible holdings of covered funds (as defined by the Volcker Rule) acquired after December 31, 2013. The deduction was not material as of June 30, 2017, and December 31, 2016.

(b) Adjusted average assets, for purposes of calculating the Tier 1 leverage ratio, includes total quarterly average assets adjusted for unrealized gains/(losses) on AFS securities, less deductions for goodwill and other intangible assets, defined benefit pension plan assets, and deferred tax assets related to net operating loss ("NOL") and tax credit carryforwards.

(c) For each of the risk-based capital ratios, the capital adequacy of JPMorgan Chase Bank, N.A. is evaluated against the lower of the two ratios as calculated under Basel III approaches (Standardized or Advanced) as required by the Collins Amendment of the Dodd-Frank Act (the "Collins Floor").

(d) The Tier 1 leverage ratio is not a risk-based measure of capital. This ratio is calculated by dividing Tier 1 capital by adjusted average assets.

Note 20 – Off-balance sheet lending-related financial instruments, guarantees, and other commitments

JPMorgan Chase Bank, N.A. provides lending-related financial instruments (e.g., commitments and guarantees) to meet the financing needs of its customers. The contractual amount of these financial instruments represents the maximum possible credit risk to JPMorgan Chase Bank, N.A. should the counterparty draw upon the commitment or JPMorgan Chase Bank, N.A. be required to fulfill its obligation under the guarantee, and should the counterparty 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 upon or a default occurring. As a result, the total contractual amount of these instruments is not, in JPMorgan Chase Bank, N.A.'s view, representative of its expected future credit exposure or funding requirements. For further discussion of lending-related commitments and guarantees, and JPMorgan Chase Bank, N.A.'s related accounting policies, see Note 27 of JPMorgan Chase Bank, N.A.'s 2016 Annual Financial Statements.

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. See Note 13 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 June 30, 2017, and December 31, 2016. The amounts in the table below for credit card and home equity lending-related commitments represent the total available credit for these products. JPMorgan Chase Bank, N.A. has not experienced, and does not anticipate, that all available lines of credit for these products will be utilized at the same time. JPMorgan Chase Bank, N.A. 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, JPMorgan Chase Bank, N.A. typically closes credit card lines when the borrower is 60 days or more past due. JPMorgan Chase Bank, N.A. may reduce or close HELOCs when there has been a demonstrable decline in the creditworthiness of the borrower.

Off–balance sheet lending-related financial instruments, guarantees and other commitments

	Contractual amount						Carrying value[h]	
	June 30, 2017					Dec 31, 2016	Jun 30, 2017	Dec 31, 2016
By remaining maturity (in millions)	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	**$ 3,927**	**$ 1,929**	**$ 1,287**	**$ 14,169**	**$ 21,312**	$ 21,713	**$ 11**	$ 12
Residential mortgage[a][b]	**14,828**	**–**	**–**	**11**	**14,839**	11,882	**–**	–
Auto	**7,182**	**996**	**173**	**78**	**8,429**	8,476	**2**	2
Consumer & business banking[b]	**12,221**	**938**	**111**	**518**	**13,788**	12,940	**19**	12
Total consumer, excluding credit card	**38,158**	**3,863**	**1,571**	**14,776**	**58,368**	55,011	**32**	26
Credit card	**11,470**	**–**	**–**	**–**	**11,470**	11,198	**–**	–
Total consumer[c]	**49,628**	**3,863**	**1,571**	**14,776**	**69,838**	66,209	**32**	26
Wholesale:								
Other unfunded commitments to extend credit[d][e]	**67,401**	**111,945**	**137,165**	**10,585**	**327,096**	324,221	**904**	905
Standby letters of credit and other financial guarantees[d][f]	**15,472**	**9,930**	**6,988**	**1,140**	**33,530**	36,170	**621**	586
Other letters of credit[d]	**2,754**	**233**	**101**	**1**	**3,089**	3,570	**4**	2
Total wholesale	**85,627**	**122,108**	**144,254**	**11,726**	**363,715**	363,961	**1,529**	1,493
Total lending-related	**$ 135,255**	**$ 125,971**	**$ 145,825**	**$ 26,502**	**$ 433,553**	$ 430,170	**$ 1,561**	$ 1,519
Other guarantees and commitments								
Securities lending indemnification agreements and guarantees[f]	**$ 175,897**		**$ –**	**$ –**	**$ 175,897**	$ 149,533	**$ –**	
Derivatives qualifying as guarantees	**4,182**	**277**	**10,606**	**39,779**	**54,844**	51,278	**397**	48
Unsettled reverse repurchase and securities borrowing agreements	**90,908**	**–**	**–**	**–**	**90,908**	46,801	–	–
Unsettled repurchase and securities lending agreements	**72,922**	–	–	–	**72,922**	23,429	–	
Loan sale and securitization-related indemnifications:								
Mortgage repurchase liability	**NA**	**NA**	**NA**	**NA**	**NA**	NA	**127**	129
Loans sold with recourse	**NA**	**NA**	**NA**	**NA**	**1,386**	2,274	**17**	31
Other guarantees and commitments[g]	**5,552**	**3,474**	**12,187**	**1,074**	**22,287**	25,962	**(110)**	(131)

(a) Includes certain commitments to purchase loans from correspondents.
(b) Certain loan portfolios have been reclassified. The prior period amounts have been revised to conform with current period presentation.
(c) Predominantly all consumer lending-related commitments are in the U.S.
(d) At June 30, 2017, and December 31, 2016, reflected the contractual amount net of risk participations totaling $361 million and $328 million, respectively, for other unfunded commitments to extend credit; $10.7 billion and $11.1 billion, respectively, for standby letters of credit and other financial guarantees; and $334 million and $265 million, respectively, for other letters of credit. In regulatory filings with the Federal Reserve these commitments are shown gross of risk participations.
(e) At both June 30, 2017 and December 31, 2016, included commitments to affiliates of $16 million.
(f) At June 30, 2017, and December 31, 2016, collateral held by JPMorgan Chase Bank, N.A. in support of securities lending indemnification agreements was $184.5 billion and $155.9 billion, respectively. Securities lending collateral primarily consists of cash and securities issued by governments that are members of the Organisation for Economic Co-operation and Development and U.S. government agencies.
(g) At June 30, 2017, and December 31, 2016, included guarantees of the obligations of affiliates of $17.7 billion and $21.3 billion, which predominantly relate to obligations arising under the affiliates' borrowing facilities at the FHLBs; and unfunded equity investment commitments of $21 million and $15 million, at June 30, 2017, and December 31, 2016, respectively. In addition, at June 30, 2017, and December 31, 2016, included letters of credit hedged by derivative transactions and managed on a market risk basis of $4.5 billion and $4.6 billion, respectively.
(h) 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. JPMorgan Chase Bank, N.A. also issues commitments under multipurpose facilities which could be drawn upon in several forms, including the issuance of a standby letter of credit.

JPMorgan Chase Bank, N.A. acts as a settlement and custody bank in the U.S. tri-party repurchase transaction market. In its role as settlement and custody bank, JPMorgan Chase Bank, N.A. is exposed to the intra-day credit risk of its cash borrower clients, usually broker-dealers. This exposure arises under secured clearance advance facilities that JPMorgan Chase Bank, N.A. extends to its clients (i.e., cash borrowers); these facilities contractually limit JPMorgan Chase Bank, N.A.'s intra-day credit risk to the facility amount and must be repaid by the end of the day. As of June 30, 2017, and December 31, 2016, the maximum outstanding commitment under the secured clearance advance facility was $3.6 billion and $4.4 billion, respectively.

Standby letters of credit and other financial guarantees

Standby letters of credit and other financial guarantees are conditional lending commitments issued by JPMorgan Chase Bank, N.A. to guarantee the performance of a 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 standby letters of credit and other letters of credit arrangements as of June 30, 2017, and December 31, 2016.

Standby letters of credit, other financial guarantees and other letters of credit

	June 30, 2017		December 31, 2016	
(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]	**$ 26,592**	**$ 2,245**	$ 28,245	$ 2,781
Noninvestment-grade[a]	**6,938**	**844**	7,702	789
Total contractual amount	**$ 33,530**	**$ 3,089**	$ 35,947	$ 3,570
Allowance for lending-related commitments	**$ 177**	**$ 4**	$ 145	$ 2
Guarantee liability	**444**	**–**	441	–
Total carrying value	**$ 621**	**$ 4**	$ 586	$ 2
Commitments with collateral	**$ 17,878**	**$ 894**	$ 19,346	$ 940

(a) The ratings scale is based on JPMorgan Chase Bank, N.A.'s internal ratings which generally correspond to ratings as defined by S&P and Moody's.

Derivatives qualifying as guarantees

JPMorgan Chase Bank, N.A. transacts certain derivative contracts that have the characteristics of a guarantee under U.S. GAAP. For further information on these derivatives, see Note 27 of JPMorgan Chase Bank, N.A.'s 2016 Annual Financial Statements.

The following table summarizes the derivatives qualifying as guarantees as of June 30, 2017, and December 31, 2016.

(in millions)		June 30, 2017		December 31, 2016
Total notional value of derivatives[a]	$	**54,844**	$	51,278
Notional amount of stable value contracts[b]		**28,892**		28,665
Maximum exposure to loss on stable value contracts		**3,031**		3,012
Fair value[c]				
Derivative payables		**412**		64
Derivative receivables		**15**		16

(a) The notional amount generally represents JPMorgan Chase Bank, N.A.'s maximum exposure to derivatives qualifying as guarantees.
(b) Exposure to certain stable value contracts is contractually limited to a substantially lower percentage of the notional amount.
(c) The fair value of the contracts reflect the probability, in JPMorgan Chase Bank, N.A.'s view, of whether JPMorgan Chase Bank, N.A. will be required to perform under the contract.

JPMorgan Chase Bank, N.A. reduces exposures to these contracts by entering into offsetting transactions, or by entering into contracts that hedge the market risk related to the derivative guarantees.

In addition to derivative contracts that meet the characteristics of a guarantee, JPMorgan Chase Bank, N.A. is both a purchaser and seller of credit protection in the credit derivatives market. For a further discussion of credit derivatives, see Note 5.

Loan sales- and securitization-related indemnifications

In connection with JPMorgan Chase Bank, N.A.'s mortgage loan sale and securitization activities with GSEs and in certain private label transactions, JPMorgan Chase Bank, N.A. has made representations and warranties that the loans sold meet certain requirements, and that may require JPMorgan Chase Bank, N.A. to repurchase the mortgage loans and/or indemnify the loan purchaser if such representations and warranties are breached by JPMorgan Chase Bank, N.A.' In addition, although JPMorgan Chase Bank, N.A.'s securitizations are predominantly nonrecourse, JPMorgan Chase Bank, N.A. does provide recourse servicing in certain limited cases where it agrees to share credit risk with the owner of the mortgage loans. For additional information, see Note 27 of JPMorgan Chase Bank, N.A.'s 2016 Annual Financial Statements.

The liability related to repurchase demands associated with private label securitizations is separately evaluated by the JPMorgan Chase Bank, N.A. in establishing its litigation reserves. For additional information regarding litigation, see Note 22 of these Consolidated Financial Statements and Note 29 of JPMorgan Chase Bank, N.A. 2016 Annual Financial Statements.

Note 21 – Pledged assets and collateral

For a discussion of JPMorgan Chase Bank, N.A.'s pledged assets and collateral, see Note 28 of JPMorgan Chase Bank, N.A.'s 2016 Annual Financial Statements.

Pledged assets

JPMorgan Chase Bank, N.A. may pledge financial assets that it owns to maintain potential borrowing capacity with central banks and for other purposes, including to secure borrowings and public deposits, collateralize repurchase and other securities financing agreements, and cover customer short sales and borrowings of affiliates. Certain of these pledged assets may be sold or repledged or otherwise used by the secured parties and are identified as financial instruments owned (pledged to various parties) on the Consolidated balance sheets.

The following table presents JPMorgan Chase Bank, N.A.'s pledged assets.

(in billions)		June 30, 2017		December 31, 2016
Assets that may be sold or repledged or otherwise used by secured parties	$	**80.4**	$	71.8
Assets that may not be sold or repledged or otherwise used by secured parties		**40.2**		37.8
Assets pledged at Federal Reserve banks and FHLBs		**422.6**		388.7
Total assets pledged	$	**543.2**	$	498.3

Total assets pledged do not include assets of consolidated VIEs; these assets are used to settle the liabilities of those entities. See Note 14 for additional information on assets and liabilities of consolidated VIEs. For additional information on JPMorgan Chase Bank, N.A.'s securities financing activities, see Note 11. For additional information on JPMorgan Chase Bank, N.A.'s long-term debt, see Note 21 of JPMorgan Chase Bank, N.A.'s 2016 Annual Financial Statements.

Collateral

JPMorgan Chase Bank, N.A. had accepted financial assets as collateral that it could sell or repledge, deliver or otherwise use. This collateral was generally obtained under resale agreements, securities borrowing agreements, customer margin loans and derivative agreements. Collateral was generally used under repurchase agreements, securities lending agreements or to cover customer short sales and to collateralize deposits and derivative agreements.

The following table presents the fair value of collateral accepted.

(in billions)		June 30, 2017		December 31, 2016
Collateral that could be sold or repledged, delivered, or otherwise used	$	**565.3**	$	540.8
Collateral sold, repledged, delivered or otherwise used		**443.0**		396.6

Note 22 – Litigation

Contingencies

As of June 30, 2017, JPMorgan Chase and its subsidiaries, including but not limited to JPMorgan Chase Bank, N.A., are defendants or putative defendants 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 JPMorgan Chase's lines of business and 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.

JPMorgan Chase believes the estimate of the aggregate range of reasonably possible losses, in excess of reserves established, for JPMorgan Chase's legal proceedings is from $0 to approximately $1.9 billion at June 30, 2017. This estimated aggregate range of reasonably possible losses was based upon currently available information for those proceedings in which JPMorgan Chase believes that an estimate of reasonably possible loss can be made. For certain matters, JPMorgan Chase does not believe that such an estimate can be made, as of that date. JPMorgan Chase'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 JPMorgan Chase and JPMorgan Chase Bank, N.A.) whose share of liability 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 JPMorgan Chase 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 JPMorgan Chase did not take into account in its estimate because JPMorgan Chase had deemed the likelihood of that outcome to be remote. Accordingly, JPMorgan Chase'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 JPMorgan Chase's material legal proceedings in which JPMorgan Chase and its subsidiaries (which in certain instances include JPMorgan Chase Bank, N.A.) are involved or have been named as parties.

Foreign Exchange Investigations and Litigation. JPMorgan Chase 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 JPMorgan Chase is cooperating with those matters. In May 2015, JPMorgan Chase pleaded guilty to a single violation of federal antitrust law. In January 2017, JPMorgan Chase was sentenced, with judgment entered thereafter. The Department of Labor granted JPMorgan Chase a temporary one-year waiver of disqualification, effective upon entry of judgment, that allows JPMorgan Chase and its affiliates to continue to rely on the Qualified Professional Asset Manager exemption under the Employee Retirement Income Security Act ("ERISA"). JPMorgan Chase's application for a lengthier exemption is pending. Separately, in February 2017 the South Africa Competition Commission referred its FX investigation JPMorgan Chase and other banks to the South Africa Competition Tribunal, which has initiated civil proceedings.

JPMorgan Chase is also one of a number of foreign exchange dealers defending a class action filed in the United States District Court for the Southern District of New York by U.S.-based plaintiffs, principally alleging violations of federal antitrust laws based on an alleged conspiracy to manipulate foreign exchange rates (the "U.S. class action"). In January 2015, JPMorgan Chase entered into a settlement agreement in the U.S. class action. Following this settlement, a number of additional putative class actions were filed seeking damages for persons who transacted FX futures and options on futures (the "exchanged-based actions"), consumers who purchased foreign currencies at allegedly inflated rates (the "consumer action"), participants or beneficiaries of qualified ERISA plans (the "ERISA actions"), and purported indirect purchasers of FX instruments (the "indirect purchaser action"). Since then, JPMorgan Chase has entered into a revised settlement agreement to resolve the consolidated U.S. class action, including the exchange-based actions, and that agreement has been preliminarily approved by the Court. The District Court has dismissed one of the ERISA actions, and the plaintiffs have filed an appeal. The consumer action, a second ERISA action and the indirect purchaser action remain pending in the District Court.

In September 2015, two class actions were filed in Canada against JPMorgan Chase as well as a number of other FX dealers, principally for alleged violations of the Canadian Competition Act based on an alleged conspiracy to fix the prices of currency purchased in the FX market. The first action was filed in the province of Ontario, and sought to represent all persons in Canada who transacted any FX instrument. The second action was filed in the province of Quebec, and sought authorization to represent only those persons in Quebec who engaged in FX transactions. In late

2016, JPMorgan Chase settled the Canadian class actions, and both settlements have received judicial approval.

General Motors Litigation. JPMorgan Chase Bank, N.A. participated in, and was the Administrative Agent on behalf of a syndicate of lenders on, a $1.5 billion syndicated Term Loan facility ("Term Loan") for General Motors Corporation ("GM"). In July 2009, in connection with the GM bankruptcy proceedings, the Official Committee of Unsecured Creditors of Motors Liquidation Company ("Creditors Committee") filed a lawsuit against JPMorgan Chase Bank, N.A., in its individual capacity and as Administrative Agent for other lenders on the Term Loan, seeking to hold the underlying lien invalid based on the filing of a UCC-3 termination statement relating to the Term Loan. In January 2015, following several court proceedings, the United States Court of Appeals for the Second Circuit reversed the Bankruptcy Court's dismissal of the Creditors Committee's claim and remanded the case to the Bankruptcy Court with instructions to enter partial summary judgment for the Creditors Committee as to the termination statement. The proceedings in the Bankruptcy Court continue with respect to, among other things, additional defenses asserted by JPMorgan Chase Bank, N.A. and the value of additional collateral on the Term Loan that was unaffected by the filing of the termination statement at issue. In connection with that additional collateral, a trial in the Bankruptcy Court regarding the value of certain representative assets concluded in May 2017, and a ruling is pending. In addition, certain Term Loan lenders filed cross-claims against JPMorgan Chase Bank, N.A. in the Bankruptcy Court seeking indemnification and asserting various claims.

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, enacted respective rules in violation of antitrust laws, and engaged in tying/bundling and exclusive dealing. The parties entered into an agreement to settle the cases for a cash payment of $6.1 billion to the class plaintiffs (of which JPMorgan Chase's share is approximately 20%) and an amount equal to ten basis points of credit card interchange for a period of eight months to be measured from a date within 60 days of the end of the opt-out period. The agreement also provided for modifications to each credit card network's rules, including those that prohibit surcharging credit card transactions. In December 2013, the District Court granted final approval of the settlement.

A number of merchants appealed 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. Both the plaintiffs and the defendants filed petitions seeking review by the U.S. Supreme Court of the Second Circuit's decision, and those petitions were denied in March 2017. The case has been remanded to the District Court for further proceedings consistent with the appellate decision.

In addition, certain merchants have filed individual actions raising similar allegations against Visa and MasterCard, as well as against JPMorgan Chase 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. Department of Justice ("DOJ"), the U.S. Commodity Futures Trading Commission ("CFTC"), the U.S. Securities and Exchange Commission ("SEC") and various state attorneys general, as well as the European Commission ("EC"), the U.K. Financial Conduct Authority ("FCA"), the Canadian Competition Bureau, 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 is submitted to the European Banking Federation ("EBF") in connection with the setting of the EBF's Euro Interbank Offered Rates ("EURIBOR") and to the Japanese Bankers' Association for the setting of Tokyo Interbank Offered Rates ("TIBOR"), as well as processes for the setting of U.S. dollar ISDAFIX rates and other reference rates in various parts of the world during similar time periods. JPMorgan Chase is responding to and continuing to cooperate with these inquiries. As previously reported, JPMorgan Chase has resolved EC inquiries relating to Yen LIBOR and Swiss Franc LIBOR. In December 2016, JPMorgan Chase resolved ComCo inquiries relating to these same rates. ComCo's investigation relating to EURIBOR, to which JPMorgan Chase and other banks are subject, continues. In December 2016, the EC issued a decision against JPMorgan Chase and other banks finding an infringement of European antitrust rules relating to EURIBOR. JPMorgan Chase has filed an appeal with the European General Court. In June 2016, the DOJ informed JPMorgan Chase that the DOJ had closed its inquiry into LIBOR and other benchmark rates with respect to JPMorgan Chase without taking action. Other inquiries have been discontinued without any action against JPMorgan Chase, including by the SEC, FCA and the Canadian Competition Bureau.

In addition, JPMorgan Chase has been named as a defendant along with other banks in a series of individual and putative class actions filed in various United States District Courts. 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 the U.S. dollar LIBOR, Yen LIBOR, Swiss franc LIBOR, Euroyen TIBOR, EURIBOR, Singapore Interbank Offered Rate ("SIBOR"),

Singapore Swap Offer Rate ("SOR") and/or the Bank Bill Swap Reference Rate ("BBSW") 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 U.S. dollar LIBOR, Yen LIBOR, Swiss franc LIBOR, Euroyen TIBOR, EURIBOR, SIBOR, SOR or BBSW and assert a variety of claims including antitrust claims seeking treble damages. These matters are in various stages of litigation.

JPMorgan Chase has agreed to settle the putative class actions related to Yen LIBOR, Euroyen TIBOR and Swiss franc LIBOR. Those settlements are subject to further documentation and approval by the Court.

In the EURIBOR action, the District Court dismissed all claims except a single antitrust claim and two common law claims, and dismissed all defendants except JPMorgan Chase and Citibank.

In the U.S. dollar LIBOR-related actions, the District Court dismissed certain claims, including the antitrust claims, and permitted other claims under the Commodity Exchange Act and common law to proceed. In May 2016, the United States Court of Appeals for the Second Circuit vacated the dismissal of the antitrust claims and remanded the case to the District Court to consider, among other things, whether the plaintiffs have standing to assert antitrust claims. In July 2016, JPMorgan Chase and other defendants again moved in the District Court to dismiss the antitrust claims, and in December 2016, the District Court granted in part and denied in part defendants' motion, finding that certain plaintiffs lacked standing to assert antitrust claims. Those plaintiffs have filed an appeal. In May 2017, plaintiffs in three putative class actions moved in the District Court for class certification, and JPMorgan Chase and other defendants have opposed that motion.

JPMorgan Chase is one of the defendants in a number of putative class actions alleging that defendant banks and ICAP conspired to manipulate the U.S. dollar ISDAFIX rates. Plaintiffs primarily assert claims under the federal antitrust laws and Commodity Exchange Act. In April 2016, JPMorgan Chase settled the ISDAFIX litigation, along with certain other banks. Those settlements have been preliminarily approved by the Court.

Madoff Litigation. A putative class action was filed in the United States District Court for the District of New Jersey by investors who were net winners (i.e., Madoff customers who had taken more money out of their accounts than had been invested) in Madoff's Ponzi scheme and were not included in a prior class action settlement. These plaintiffs alleged violations of the federal securities law, as well as other state and federal claims. The New Jersey court granted a transfer motion to the United States District Court for the Southern District of New York. The New York court granted JPMorgan Chase's motion to dismiss, and the United States Court of Appeals for the Second Circuit has affirmed that dismissal. Plaintiffs have until September 2017 to file a petition for writ of certiorari with the United States Supreme Court. A similar action was filed in the United States District Court for the Middle District of Florida, although it was not styled as a class action, and included claims pursuant to Florida statutes. The Florida court granted JPMorgan Chase's motion to dismiss the case, the United States Court of Appeals for the Eleventh Circuit affirmed the dismissal, and the United States Supreme Court denied plaintiffs' petition for writ of certiorari. In addition, the same plaintiffs have re-filed their dismissed state claims in Florida state court, where the action is stayed pending resolution of the federal court matters.

Mortgage-Backed Securities and Repurchase Litigation and Related Regulatory Investigations. JPMorgan Chase and affiliates (together, "JPMC"), Bear Stearns and affiliates (together, "Bear Stearns") and certain Washington Mutual affiliates (together, "Washington Mutual") have been named as defendants in a number of cases in their various roles in offerings of MBS. The remaining civil cases include one investor action and actions for repurchase of mortgage loans. JPMorgan Chase and certain of its current and former officers and Board members have also been sued in a shareholder derivative action relating to JPMorgan Chase's MBS activities, which remains pending.

Issuer Litigation – Individual Purchaser Actions. With the exception of one remaining action, JPMorgan Chase has resolved all of the individual actions brought against JPMC, Bear Stearns and Washington Mutual as MBS issuers (and, in some cases, also as underwriters of their own MBS offerings).

Repurchase Litigation. JPMorgan Chase is defending a number of actions brought by trustees, securities administrators and/or master servicers of various MBS trusts on behalf of purchasers of securities issued by those trusts. These cases generally allege breaches of various representations and warranties regarding securitized loans and seek repurchase of those loans or equivalent monetary relief, as well as indemnification of attorneys' fees and costs and other remedies. JPMorgan Chase has reached a settlement with Deutsche Bank National Trust Company, acting as trustee for various MBS trusts, and the Federal Deposit Insurance Corporation (the "FDIC") in connection with the litigation related to a significant number of MBS issued by Washington Mutual; that case is described in the Washington Mutual Litigations section below. Other repurchase actions, each specific to one or more MBS transactions issued by JPMC, are in various stages of litigation.

In addition, JPMorgan Chase and a group of 21 institutional MBS investors made a binding offer to the trustees of MBS issued by JPMC and Bear Stearns providing for the payment of $4.5 billion and the implementation of certain servicing changes by JPMC, to resolve all repurchase and servicing claims that have been asserted or could have been asserted with respect to 330 MBS trusts created between 2005 and 2008. The offer does not resolve claims relating to Washington Mutual MBS. The trustees (or separate and

successor trustees) for this group of 330 trusts have accepted the settlement for 319 trusts in whole or in part and excluded from the settlement 16 trusts in whole or in part. The trustees' acceptance has received final approval from the court.

Additional actions have been filed against third-party trustees that relate to loan repurchase and servicing claims involving trusts sponsored by JPMC, Bear Stearns and Washington Mutual.

In actions against JPMorgan Chase involving offerings of MBS issued by JPMorgan Chase, JPMorgan Chase has contractual rights to indemnification from sellers of mortgage loans that were securitized in such offerings. However, certain of those indemnity rights may prove effectively unenforceable in various situations, such as where the loan sellers are now defunct.

JPMorgan Chase has entered into agreements with a number of MBS trustees or entities that purchased MBS that toll applicable statute of limitations periods with respect to their claims, and has settled, and in the future may settle, tolled claims. There is no assurance that JPMorgan Chase will not be named as a defendant in additional MBS-related litigation.

Derivative Action. A shareholder derivative action against JPMorgan Chase, as nominal defendant, and certain of its current and former officers and members of its Board of Directors relating to JPMorgan Chase's MBS activities is pending in California federal court. In June 2017, the court granted defendants' motion to dismiss the cause of action that alleged material misrepresentations and omissions in JPMorgan Chase's proxy statement, found that the court did not have personal jurisdiction over the individual defendants with respect to the remaining causes of action, and transferred that remaining portion of the case to the United States District Court for the Southern District of New York without ruling on the merits.

Government Enforcement Investigations and Litigation. JPMorgan Chase is responding to an ongoing investigation being conducted by the DOJ's Criminal Division and two United States Attorney's Offices relating to MBS offerings securitized and sold by JPMorgan Chase and its subsidiaries.

Mortgage-Related Investigations and Litigation. In January 2017, a Consent Order was entered by the United States District Court for the Southern District of New York resolving allegations by the Civil Division of the United States Attorney's Office for the Southern District of New York that JPMorgan Chase violated the Fair Housing Act and Equal Credit Opportunity Act by giving pricing discretion to independent mortgage brokers in its wholesale lending origination channel which, according to the government's model, may have charged higher fees and interest rates to African-American and Hispanic borrowers than non-Hispanic White borrowers during the period between 2006 and 2009. JPMorgan Chase denied liability, but agreed to pay a total of approximately $55 million to resolve this matter. In addition, three municipalities have commenced litigation against JPMorgan Chase alleging violations of an unfair competition law or the Fair Housing Act. The municipalities seek, among other things, civil penalties for the unfair competition claim, and, for the Fair Housing Act claims, damages resulting from lost tax revenue and increased municipal costs associated with foreclosed properties. Two of the municipal actions were stayed pending an appeal to the United States Supreme Court. In May 2017, the Supreme Court held that the City of Miami has standing to bring claims under the Fair Housing Act, and remanded the case to the lower court to determine whether the City sufficiently alleged that the defendant's conduct proximately caused the alleged damages. In the two stayed municipal actions against JPMorgan Chase, one remains stayed pending the resolution of the City of Miami case on remand, and in the other, the municipality has moved to reopen the case, which JPMorgan Chase has opposed. The third municipal action against JPMorgan Chase was stayed pending an appeal by the City of Los Angeles to the United States Court of Appeals for the Ninth Circuit in a related action. In May 2017, the Court of Appeals affirmed judgments against the City of Los Angeles and in favor of the defendants, and following that decision, the court has not yet lifted the stay in the action against JPMorgan Chase.

Municipal Derivatives Litigation. Several civil actions were commenced in New York and Alabama courts against JPMorgan Chase relating to certain Jefferson County, Alabama (the "County") warrant underwritings and swap transactions. The claims in the civil actions generally alleged that JPMorgan Chase made payments to certain third parties in exchange for being chosen to underwrite more than $3 billion in warrants issued by the County and to act as the counterparty for certain swaps executed by the County. The County filed for bankruptcy in November 2011. In June 2013, the County filed a Chapter 9 Plan of Adjustment, as amended (the "Plan of Adjustment"), which provided that all the above-described actions against JPMorgan Chase would be released and dismissed with prejudice. In November 2013, the Bankruptcy Court confirmed the Plan of Adjustment, and in December 2013, certain sewer rate payers filed an appeal challenging the confirmation of the Plan of Adjustment. All conditions to the Plan of Adjustment's effectiveness, including the dismissal of the actions against JPMorgan Chase, were satisfied or waived and the transactions contemplated by the Plan of Adjustment occurred in December 2013. Accordingly, all the above-described actions against JPMorgan Chase have been dismissed pursuant to the terms of the Plan of Adjustment. The appeal of the Bankruptcy Court's order confirming the Plan of Adjustment remains pending.

Petters Bankruptcy and Related Matters. JPMorgan Chase and certain of its affiliates, including One Equity Partners ("OEP"), have been named as defendants in several actions filed in connection with the receivership and bankruptcy proceedings pertaining to Thomas J. Petters and certain affiliated entities (collectively, "Petters") and the Polaroid

Corporation. The principal actions against JPMorgan Chase and its affiliates have been brought by a court-appointed receiver for Petters and the trustees in bankruptcy proceedings for three Petters entities. These actions generally seek to avoid certain putative transfers in connection with (i) the 2005 acquisition by Petters of Polaroid, which at the time was majority-owned by OEP; (ii) two credit facilities that JPMorgan Chase and other financial institutions entered into with Polaroid; and (iii) a credit line and investment accounts held by Petters. In January 2017, the Court substantially denied the defendants' motion to dismiss an amended complaint filed by the plaintiffs, and defendants' motion for leave to appeal that decision is pending.

Proprietary Products Investigations and Litigation. In December 2015, JPMorgan Chase Bank, N.A. and J.P. Morgan Securities LLC agreed to a settlement with the SEC, and JPMorgan Chase Bank, N.A. agreed to a settlement with the CFTC, regarding disclosures to clients concerning conflicts associated with JPMorgan Chase's sale and use of proprietary products, such as J.P. Morgan mutual funds, in JPMorgan Chase's CCB and AWM wealth management businesses, and the U.S. Private Bank's disclosures concerning the use of hedge funds that pay placement agent fees to JPMorgan Chase broker-dealer affiliates. JPMorgan Chase settled with an additional government authority in July 2016, and continues to cooperate with inquiries from other government authorities concerning disclosure of conflicts associated with JPMorgan Chase's sale and use of proprietary products. A putative class action, which was filed in the United States District Court for the Northern District of Illinois on behalf of financial advisory clients from 2007 to the present whose funds were invested in proprietary funds and who were charged investment management fees, was dismissed by the Court. The dismissal was affirmed on appeal. Plaintiffs have filed a petition for writ of certiorari with the United States Supreme Court, to which JPMorgan Chase will respond.

Referral Hiring Practices Investigations. In November 2016, JPMorgan Chase entered into settlements with DOJ, the SEC and the Board of Governors of the Federal Reserve System (the "Federal Reserve") to resolve those agencies' respective investigations relating to a former hiring program for candidates referred by clients, potential clients and government officials in the Asia Pacific region. Other related investigations are ongoing, and JPMorgan Chase continues to cooperate with these investigations.

Washington Mutual Litigations. Proceedings related to Washington Mutual's failure are pending before the United States District Court for the District of Columbia and include a lawsuit brought by Deutsche Bank National Trust Company, initially against the FDIC and amended to include JPMorgan Chase Bank, N.A. as a defendant, asserting an estimated $6 billion to $10 billion in damages based upon alleged breaches of certain representations and warranties given by certain Washington Mutual affiliates in connection with mortgage securitization agreements. The case includes assertions that JPMorgan Chase Bank, N.A. may have assumed liabilities for the alleged breaches of representations and warranties in the mortgage securitization agreements. In June 2015, the court ruled in favor of JPMorgan Chase Bank, N.A. on the question of whether JPMorgan Chase or the FDIC bears responsibility for Washington Mutual Bank's repurchase obligations, holding that JPMorgan Chase Bank, N.A. assumed only those liabilities that were reflected on Washington Mutual Bank's financial accounting records as of September 25, 2008, and only up to the amount of the book value reflected therein.

JPMorgan Chase also filed complaints in the United States District Court for the District of Columbia against the FDIC, in its corporate capacity as well as in its capacity as receiver for Washington Mutual Bank, asserting multiple claims for indemnification under the terms of the Purchase & Assumption Agreement between JPMorgan Chase Bank, N.A. and the FDIC relating to JPMorgan Chase Bank, N.A.'s purchase of substantially all of the assets and certain liabilities of Washington Mutual Bank (the "Purchase & Assumption Agreement").

JPMorgan Chase, Deutsche Bank National Trust Company and the FDIC signed a settlement agreement to resolve (i) pending litigation brought by Deutsche Bank National Trust Company against the FDIC and JPMorgan Chase Bank, N.A., as defendants, relating to alleged breaches of certain representations and warranties given by certain Washington Mutual affiliates in connection with mortgage securitization agreements and (ii) JPMorgan Chase Bank, N.A.'s outstanding indemnification claims pursuant to the terms of the Purchase & Assumption Agreement. Deutsche Bank National Trust Company filed a judicial approval proceeding, and the court has approved the settlement.

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. JPMorgan Chase has been successful in legal challenges made to the Court of Cassation, France's highest court, which have been referred back to and remain pending before the Paris Court of Appeal. In addition, civil proceedings have been commenced against JPMorgan Chase Bank, N.A. by a number of the managers. 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, including in

certain cases, JPMorgan Chase Bank, N.A., are named as defendants or are otherwise involved in a substantial number of other legal proceedings. JPMorgan Chase and JPMorgan Chase Bank, N.A. each 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.

JPMorgan Chase Bank, N.A. has established reserves for several hundred of its currently outstanding legal proceedings. In accordance with the provisions of U.S. GAAP for contingencies, JPMorgan Chase Bank, N.A. 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. JPMorgan Chase Bank, N.A. 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. JPMorgan Chase Bank N.A.'s legal expense was a benefit of $(87) million and $(473) million for the six months ended June 30, 2017 and 2016, respectively. Where a particular litigation matter involves one or more subsidiaries or affiliates of JPMorgan Chase, JPMorgan Chase determines the appropriate allocation of legal expense among those subsidiaries or affiliates (including, where applicable, JPMorgan Chase Bank, N.A.). There is no assurance that JPMorgan Chase Bank, N.A.'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, JPMorgan Chase and JPMorgan Chase Bank, N.A. 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 Bank, N.A. believes, based upon its current knowledge, after consultation with counsel and after taking into account its current litigation reserves, that the legal proceedings currently pending against it should not have a material adverse effect on JPMorgan Chase's Bank, N.A.'s consolidated financial condition. JPMorgan Chase Bank, N.A. 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 Bank, N.A.'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 Bank, N.A.'s income for that period.

Note 23 – Business changes and developments

Business events and subsequent events

Student loan portfolio transfer and sale

JPMorgan Chase Bank, N.A. transferred the student loan portfolio to held-for-sale in the first quarter of 2017. The transfer resulted in a write-down of the portfolio to the estimated fair value at the time of the transfer. This write-down was recognized predominantly as a $467 million charge-off, resulting in a $218 million increase in the provision for credit losses after utilization of the allowance for loan losses of $249 million in the first quarter of 2017. JPMorgan Chase Bank, N.A. sold substantially all of the portfolio in the second quarter of 2017, and the sale event did not have a material impact on JPMorgan Chase Bank, N.A.'s Consolidated Financial Statements.

Subsequent events

In preparing these consolidated financial statements, JPMorgan Chase Bank, N.A. performed an evaluation of material events subsequent to June 30, 2017, and through August 2, 2017, the date these financial statements were available to be issued.

Independent Auditor's Report

To the Board of Directors and Stockholder of
JPMorgan Chase Bank, National Association:

We have reviewed the accompanying consolidated interim financial information of JPMorgan Chase Bank, National Association and its subsidiaries (the "Bank"), which comprise the consolidated balance sheet as of June 30, 2017, and the related consolidated statements of income, comprehensive income, changes in stockholder's equity and cash flows for the six-month periods ended June 30, 2017 and 2016.

Management's Responsibility for the Consolidated Interim Financial Information

The Bank's management is responsible for the preparation and fair presentation of the consolidated interim financial information in accordance with accounting principles generally accepted in the United States of America; this responsibility includes the design, implementation, and maintenance of internal control sufficient to provide a reasonable basis for the preparation and fair presentation of the consolidated interim financial information in accordance with accounting principles generally accepted in the United States of America.

Auditor's Responsibility

Our responsibility is to conduct our review in accordance with auditing standards generally accepted in the United States of America applicable to reviews of interim financial information. 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 auditing standards generally accepted in the United States of America, the objective of which is the expression of an opinion regarding the financial information taken as a whole. Accordingly, we do not express such an opinion.

Conclusion

Based on our review, we are not aware of any material modifications that should be made to the accompanying consolidated interim financial information for it to be in accordance with accounting principles generally accepted in the United States of America.

Other Matter

We previously audited, in accordance with auditing standards generally accepted in the United States of America, the consolidated balance sheet of JPMorgan Chase Bank, National Association and its subsidiaries as of December 31, 2016, and the related consolidated statements of income, comprehensive income, changes in stockholder's equity and cash flows for the year then ended (not presented herein), and in our report dated February 28, 2017 we expressed an unmodified opinion on those consolidated financial statements. In our opinion, the information set forth in the accompanying consolidated balance sheet information as of December 31, 2016, is consistent, in all material respects, with the audited consolidated balance sheet from which it has been derived.

PricewaterhouseCoopers LLP

August 2, 2017

PricewaterhouseCoopers LLP, 300 Madison Avenue, New York, NY 10017

2016 Annual Financial Statements: Consolidated Financial Statements for the year ended December 31, 2016

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

AOCI: Accumulated other comprehensive income/(loss)

ARM(s): Adjustable rate mortgage(s)

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 Bank, N.A. consolidates.

Benefit obligation: refers to the projected benefit obligation for pension plans and the accumulated postretirement benefit obligation for OPEB plans.

CDS: Credit default swaps

CET1 Capital: Common Equity Tier 1 Capital

CFTC: Commodity Futures Trading Commission

CLO: Collateralized loan obligations

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.

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.

DVA: Debit valuation adjustment

EC: European Commission

FASB: Financial Accounting Standards Board

Fannie Mae: Federal National Mortgage Association

FCA: Financial Conduct Authority

FDIC: Federal Deposit Insurance Corporation

Federal Reserve: The Board of the Governors of the Federal Reserve System

FHA: Federal Housing Administration

FHLB: Federal Home Loan Bank

FICO score: A measure of consumer credit risk provided by credit bureaus, typically produced from statistical models by Fair Isaac Corporation utilizing data collected by the credit bureaus.

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 bonds: Bonds issued by the government of one of the G7 nations.

Ginnie Mae: Government National Mortgage Association

GSE: Fannie Mae and Freddie Mac

HELOAN: Home equity loan

HELOC: Home equity line of credit

Home equity – senior lien: represents loans and commitments where JPMorgan Chase Bank, N.A. holds the first security interest on the property.

Home equity – junior lien: represents loans and commitments where JPMorgan Chase Bank, N.A. holds a security interest that is subordinate in rank to other liens.

HTM: Held-to-maturity

Impaired loan: Impaired loans are loans measured at amortized cost, for which it is probable that JPMorgan Chase Bank, N.A. 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

Investment-grade: An indication of credit quality based on JPMorgan Chase Bank, N.A.'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.

ISDA: International Swaps and Derivatives Association

JPMorgan Chase: JPMorgan Chase & Co.

JPMorgan Chase Bank, N.A.: JPMorgan Chase Bank, National Association

LLC: Limited Liability Company

LIBOR: London Interbank Offered Rate

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.

Master netting agreement: An agreement between two counterparties who have multiple contracts with each other that provides for the net settlement of all contracts, as well as cash collateral, through a single payment, in a single currency, in the event of default on or termination of any one contract.

MBS: Mortgage-backed securities

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 JPMorgan Chase Bank, N.A.'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.

NM: Not meaningful

NOL: Net operating loss

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.

OCC: Office of the Comptroller of the Currency

OCI: Other comprehensive income/(loss)

OEP: One Equity Partners

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

PCA: Prompt corrective action

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 JPMorgan Chase Bank, N.A. is willing to buy a financial or other instrument and the price at which JPMorgan Chase Bank, N.A. 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, JPMorgan Chase Bank, N.A. 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, foreign exchange risk and commodity risk, and (c) other derivatives.

PCI: "Purchased credit-impaired" loans represents loans that were acquired in the Washington Mutual transaction 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.

PSU(s): Performance share units

Retained loans: Loans that are held-for-investment (i.e. excludes loans held-for-sale and loans at fair value).

RHS: Rural Housing Service of the U.S. Department of Agriculture

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

RSU(s): Restricted stock units

S&P: Standard and Poor's 500 Index

SAR(s): Stock appreciation rights

SEC: Securities and Exchange Commission

Short sale: is a sale of real estate in which proceeds from selling the underlying property are less than the amount owed JPMorgan Chase Bank, N.A. under the terms of the related mortgage and the related lien is released upon receipt of such proceeds.

Single-name: Single reference-entities

SLR: Supplementary leverage ratio

SPEs: Special purpose entities

Structured notes: Structured notes are predominantly financial instruments containing embedded derivatives. Where present, the embedded derivative is the primary driver of risk.

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.

TDR: "Troubled debt restructuring" is deemed to occur when JPMorgan Chase Bank, N.A. modifies the original terms of a loan agreement by granting a concession to a borrower that is experiencing financial difficulty.

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. GAAP: Accounting principles generally accepted in the United States of America.

U.S. GSE(s): "U.S. government-sponsored enterprises": In the U.S., GSEs are quasi-governmental, privately-held entities established by 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, which is directly owned by the U.S. Department of Housing and Urban Development. 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

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.

Washington Mutual transaction: On September 25, 2008, JPMorgan Chase acquired certain of the assets of the banking operations of Washington Mutual Bank ("Washington Mutual") from the FDIC.

JPMORGAN CHASE BANK,
NATIONAL ASSOCIATION

(a wholly-owned subsidiary of JPMorgan Chase & Co.)

CONSOLIDATED FINANCIAL STATEMENTS

For the three years ended December 31, 2016

FOR THE THREE YEARS ENDED DECEMBER 31, 2016

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Report of Independent Auditors

To the Board of Directors and Stockholder of JPMorgan Chase Bank, National Association

We have audited the accompanying consolidated financial statements of JPMorgan Chase Bank, National Association and its subsidiaries, which comprise the consolidated balance sheets as of December 31, 2016 and 2015, and the related consolidated statements of income, comprehensive income, changes in stockholder's equity and cash flows for the years then ended.

Management's Responsibility for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express an opinion on the consolidated financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on our judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, we consider internal control relevant to the Company's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of JPMorgan Chase Bank, National Association and its subsidiaries as of December 31, 2016 and 2015, and the results of its operations and its cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

PricewaterhouseCoopers LLP

February 28, 2017

PricewaterhouseCoopers LLP • 300 Madison Avenue • New York, NY 10017

Consolidated statements of income

JPMorgan Chase Bank, National Association
(a wholly-owned subsidiary of JPMorgan Chase & Co.)

Year ended December 31, (in millions)	2016	2015	2014
Revenue			
Investment banking fees	**$ 2,699**	$ 1,931	$ 2,034
Principal transactions	**9,963**	9,085	7,660
Lending- and deposit-related fees	**5,780**	5,693	5,797
Asset management, administration and commissions	**11,133**	11,263	11,652
Securities gains	**130**	202	68
Mortgage fees and related income	**2,487**	2,513	3,564
Card income	**4,246**	4,333	4,305
Other income	**4,806**	4,671	3,683
Noninterest revenue	**41,244**	39,691	38,763
Interest income	**41,584**	37,425	37,966
Interest expense	**4,642**	3,736	4,229
Net interest income	**36,942**	33,689	33,737
Total net revenue	**78,186**	73,380	72,500
Provision for credit losses	**2,486**	1,376	832
Noninterest expense			
Compensation expense	**23,240**	23,128	23,996
Occupancy expense	**3,301**	3,438	3,528
Technology, communications and equipment expense	**6,390**	5,747	5,328
Professional and outside services	**4,989**	5,268	5,994
Marketing	**881**	796	748
Other expense	**9,659**	10,719	10,984
Total noninterest expense	**48,460**	49,096	50,578
Income before income tax expense	**27,240**	22,908	21,090
Income tax expense	**7,868**	5,980	6,331
Net income	**$ 19,372**	$ 16,928	$ 14,759

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

Consolidated statements of comprehensive income

JPMorgan Chase Bank, National Association
(a wholly-owned subsidiary of JPMorgan Chase & Co.)

Year ended December 31, (in millions)		2016		2015		2014
Net income	**$**	**19,372**	$	16,928	$	14,759
Other comprehensive income/(loss), after-tax						
Unrealized gains/(losses) on investment securities		**(1,037)**		(2,104)		1,862
Translation adjustments, net of hedges		**4**		(17)		(35)
Cash flow hedges		**(55)**		46		(16)
Defined benefit pension and OPEB plans		**(27)**		139		(34)
DVA on fair value option elected liabilities		**(51)**		—		—
Total other comprehensive income/(loss), after-tax		**(1,166)**		(1,936)		1,777
Comprehensive income	**$**	**18,206**	$	14,992	$	16,536

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

Consolidated balance sheets

JPMorgan Chase Bank, National Association
(a wholly-owned subsidiary of JPMorgan Chase & Co.)

December 31, (in millions, except share data)		2016		2015
Assets				
Cash and due from banks	$	21,202	$	19,359
Deposits with banks		388,655		316,350
Federal funds sold and securities purchased under resale agreements (included **$5,349** and $7,970 at fair value)		172,607		148,483
Securities borrowed (included **$0** and $395 at fair value)		32,497		25,519
Trading assets (included assets pledged of **$51,303** and $55,776)		245,329		242,535
Securities (included **$234,870** and $235,955 at fair value and assets pledged of **$19,116** and $16,133)		285,038		285,028
Loans (included **$2,228** and $2,752 at fair value)		792,119		735,717
Allowance for loan losses		(10,715)		(10,807)
Loans, net of allowance for loan losses		781,404		724,910
Accrued interest and accounts receivable		40,805		36,389
Premises and equipment		13,491		12,748
Goodwill		27,130		27,100
Mortgage servicing rights		6,096		6,608
Other intangible assets		170		246
Other assets (included **$41** and $5,701 at fair value and assets pledged of **$1,429** and $1,074)		68,379		69,383
Total assets[(a)]	$	2,082,803	$	1,914,658
Liabilities				
Deposits (included **$13,965** and $12,847 at fair value)	$	1,480,238	$	1,312,940
Federal funds purchased and securities loaned or sold under repurchase agreements (included **$399** and $728 at fair value)		74,778		77,262
Other borrowed funds (included **$5,571** and $6,680 at fair value)		12,179		30,170
Trading liabilities		111,700		101,053
Accounts payable and other liabilities (included **$7,494** and $6,652 at fair value)		84,239		76,160
Beneficial interests issued by consolidated variable interest entities		7,451		12,852
Long-term debt (included **$14,936** and $14,729 at fair value)		107,131		108,683
Total liabilities[(a)]		1,877,716		1,719,120
Commitments and contingencies (see Notes 27, 28 and 29)				
Stockholder's equity				
Preferred stock ($1 par value; authorized 15,000,000 shares: issued **0** shares)		–		–
Common stock ($12 par value; authorized **200,000,000** and 150,000,000 shares at December 31, 2016, and December 31, 2015, respectively; issued **148,761,243** shares at December 31, 2016 and 2015)		1,785		1,785
Additional paid-in capital		94,125		92,782
Retained earnings		108,312		98,951
Accumulated other comprehensive income		865		2,020
Total stockholder's equity		205,087		195,538
Total liabilities and stockholder's equity	$	2,082,803	$	1,914,658

(a) The following table presents information on assets and liabilities related to variable interest entities ("VIEs") that are consolidated by JPMorgan Chase Bank, N.A. at December 31, 2016 and 2015. The difference between total VIE assets and liabilities represents JPMorgan Chase Bank, N.A.'s interests in those entities, which were eliminated in consolidation.

December 31, (in millions)		2016		2015
Assets				
Trading assets	$	2,655	$	2,491
Loans		29,695		27,747
All other assets		2,150		1,574
Total assets	$	34,500	$	31,812
Liabilities				
Beneficial interests issued by consolidated variable interest entities	$	7,451	$	12,852
All other liabilities		377		691
Total liabilities	$	7,828	$	13,543

The assets of the consolidated VIEs are used to settle the liabilities of those entities. The holders of the beneficial interests do not have recourse to the general credit of JPMorgan Chase Bank, N.A. At December 31, 2016 and 2015, JPMorgan Chase Bank, N.A. provided limited program-wide credit enhancement of $2.4 billion and $2.0 billion, respectively, related to its JPMorgan Chase Bank, N.A.-administered multi-seller conduits, which are eliminated in consolidation. For further discussion, see Note 17.

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

Consolidated statements of changes in stockholder's equity

JPMorgan Chase Bank, National Association
(a wholly-owned subsidiary of JPMorgan Chase & Co.)

Year ended December 31, (in millions)	**2016**	2015	2014
Common stock			
Balance at January 1 and December 31	**$ 1,785**	$ 1,785	$ 1,785
Additional paid-in capital			
Balance at January 1	**92,782**	90,801	90,479
Cash capital contribution from JPMorgan Chase & Co.	**327**	4	477
Adjustments to capital due to transactions with JPMorgan Chase & Co.	**1,016**	1,977	(155)
Balance at December 31	**94,125**	92,782	90,801
Retained earnings			
Balance at January 1	**98,951**	89,082	74,323
Cumulative effect of change in accounting principle	**(11)**	–	–
Net income	**19,372**	16,928	14,759
Cash dividends paid to JPMorgan Chase & Co.	**(10,000)**	(8,000)	–
Net internal legal entity mergers	**–**	941	–
Balance at December 31	**108,312**	98,951	89,082
Accumulated other comprehensive income			
Balance at January 1	**2,020**	3,956	2,179
Cumulative effect of change in accounting principle	**11**	–	–
Other comprehensive income/(loss)	**(1,166)**	(1,936)	1,777
Balance at December 31	**865**	2,020	3,956
Total stockholder's equity	**$ 205,087**	$ 195,538	$ 185,624

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

Consolidated statements of cash flows

JPMorgan Chase Bank, National Association
(a wholly-owned subsidiary of JPMorgan Chase & Co.)

Year ended December 31, (in millions)	2016	2015	2014
Operating activities			
Net income	$ 19,372	$ 16,928	$ 14,759
Adjustments to reconcile net income to net cash provided by/(used in) operating activities:			
Provision for credit losses	2,486	1,376	832
Depreciation and amortization	5,144	4,559	4,343
Deferred tax expense	1,964	1,050	3,776
Other	(130)	(202)	(68)
Originations and purchases of loans held-for-sale	(61,107)	(49,197)	(67,525)
Proceeds from sales, securitizations and paydowns of loans held-for-sale	60,196	50,451	71,407
Net change in:			
Trading assets	2,955	38,192	(11,409)
Securities borrowed	(6,977)	7,106	7,674
Accrued interest and accounts receivable	(4,535)	1,623	9,598
Other assets	4,936	(486)	(17,703)
Trading liabilities	6,156	(22,417)	22,637
Accounts payable and other liabilities	(14)	(1,938)	(8,933)
Other operating adjustments	7,099	1,024	4,904
Net cash provided by operating activities	37,545	48,069	34,292
Investing activities			
Net change in:			
Deposits with banks	(72,305)	164,927	(163,246)
Federal funds sold and securities purchased under resale agreements	(24,180)	(6,666)	41,867
Held-to-maturity securities:			
Proceeds from paydowns and maturities	6,218	6,099	4,169
Purchases	(143)	(6,204)	(10,345)
Available-for-sale securities:			
Proceeds from paydowns and maturities	65,478	76,303	88,727
Proceeds from sales	45,853	37,362	24,425
Purchases	(122,253)	(68,027)	(118,271)
Proceeds from sales and securitizations of loans held-for-investment	15,429	17,975	19,387
Other changes in loans, net	(77,085)	(104,819)	(47,922)
All other investing activities, net	(286)	2,544	688
Net cash provided by/(used in) investing activities	(163,274)	119,494	(160,521)
Financing activities			
Net change in:			
Deposits	169,139	(131,456)	127,045
Federal funds purchased and securities loaned or sold under repurchase agreements	(2,472)	(17,057)	(18,291)
Other borrowed funds	(17,971)	(8,103)	10,011
Beneficial interests issued by consolidated variable interest entities	(926)	(5,587)	(527)
Proceeds from long-term borrowings	37,406	16,728	35,498
Payments of long-term borrowings	(47,987)	(22,719)	(39,656)
Cash capital contribution from JPMorgan Chase & Co.	327	4	477
Dividends paid to JPMorgan Chase & Co.	(10,000)	(8,000)	–
All other financing activities, net	200	1,620	469
Net cash provided by/(used in) financing activities	127,716	(174,570)	115,026
Effect of exchange rate changes on cash and due from banks	(144)	(271)	(1,115)
Net increase/(decrease) in cash and due from banks	1,843	(7,278)	(12,318)
Cash and due from banks at the beginning of the period	19,359	26,637	38,955
Cash and due from banks at the end of the period	$ 21,202	$ 19,359	$ 26,637
Cash interest paid	$ 4,552	$ 3,366	$ 4,536
Cash income taxes paid/(refunded), net[(a)]	3,613	8,272	(481)

(a) Includes $2.6 billion, $7.5 billion, and $(1.1) billion paid to/(refunded from) JPMorgan Chase & Co. in 2016, 2015 and 2014, respectively.

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

Note 1 – Overview and basis of presentation

JPMorgan Chase Bank, National Association ("JPMorgan Chase Bank, N.A."), is a wholly-owned bank subsidiary of JPMorgan Chase & Co. ("JPMorgan Chase"), which 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 Bank, N.A. is a national banking association that is chartered by the Comptroller of the Currency ("OCC"), a bureau of the United States Department of the Treasury. JPMorgan Chase Bank, N.A.'s main office is located in Columbus, Ohio, and it has retail branches in 23 states. JPMorgan Chase Bank, N.A. operates nationally as well as through non-U.S. bank branches and subsidiaries, and representative offices. One of its principal wholly-owned operating subsidiaries in the United Kingdom ("U.K.") is J.P. Morgan Securities plc. JPMorgan Chase Bank, N.A. either directly or through such offices, branches and subsidiaries offers a wide range of banking services to its U.S. and non-U.S. customers including investment banking, financial services for consumers and small business, commercial banking, financial transactions processing and asset management. Under the J.P. Morgan and Chase brands, JPMorgan Chase Bank, N.A. serves millions of customers in the U.S. and many of the world's most prominent corporate, institutional and governmental clients.

The JPMorgan Chase Bank, N.A. Board of Directors is responsible for the oversight of the management of JPMorgan Chase Bank, N.A. The JPMorgan Chase Bank, N.A. Board accomplishes this function acting directly and through the principal standing committees of JPMorgan Chase's Board of Directors. Risk oversight on behalf of JPMorgan Chase Bank N.A. is primarily the responsibility of the Directors' Risk Policy Committee ("DRPC") and Audit Committee of JPMorgan Chase's Board of Directors and, with respect to compensation and other management-related matters, the Compensation & Management Development Committee of JPMorgan Chase's Board of Directors.

The accounting and financial reporting policies of JPMorgan Chase Bank, N.A. and its subsidiaries conform to accounting principles generally accepted in the U.S. ("U.S. GAAP"). Additionally, where applicable, the policies conform to the accounting and reporting guidelines prescribed by regulatory authorities.

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

Supervision and regulation

JPMorgan Chase and its subsidiaries (including JPMorgan Chase Bank, N.A.) are subject to regulation under state and federal laws in the U.S., as well as the applicable laws of each of the various jurisdictions outside the U.S. in which JPMorgan Chase does business.

As a result of regulatory reforms enacted and proposed in the U.S. and abroad, JPMorgan Chase has been experiencing a period of significant change in regulation which has had and could continue to have significant consequences for how JPMorgan Chase conducts business. JPMorgan Chase continues to work diligently in assessing the regulatory changes it is facing, and is devoting substantial resources to comply with all the new regulations, while, at the same time, endeavoring to best meet the needs and expectations of its customers, clients and shareholders. These efforts include the implementation of new policies, procedures and controls, and appropriate adjustments to JPMorgan Chase's business and operations, legal entity structure, and capital and liquidity management. The combined effect of numerous rule-makings by multiple governmental agencies and regulators, and the potential conflicts or inconsistencies among such rules, present challenges and risks to JPMorgan Chase's business and operations. Given the current status of the regulatory developments, JPMorgan Chase cannot currently quantify all of the possible effects on its business and operations of the significant changes that are underway.

Financial holding company:

Consolidated supervision by the Board of Governors of the Federal Reserve System (the "Federal Reserve"). As a bank holding company ("BHC") and a financial holding company, JPMorgan Chase is subject to comprehensive consolidated supervision, regulation and examination by the Federal Reserve. The Federal Reserve acts as an "umbrella regulator" and certain of JPMorgan Chase's subsidiaries are regulated directly by additional authorities based on the particular activities of those subsidiaries. For example, JPMorgan Chase's national bank subsidiaries, including JPMorgan Chase Bank, N.A., and Chase Bank USA, N.A., are subject to supervision and regulation by the OCC and, with respect to certain matters, by the Federal Reserve and the Federal Deposit Insurance Corporation (the "FDIC"). Certain non-bank subsidiaries, such as JPMorgan Chase's U.S. broker-dealers, are subject to supervision and regulation by the Securities and Exchange Commission (the "SEC") and, subsidiaries that engage in certain futures-related and swaps-related activities are subject to supervision and regulation by the Commodity Futures Trading Commission ("CFTC"). J.P. Morgan Securities plc, is a U.K. bank licensed within the European Economic Area (the "EEA") to undertake all banking activity and is regulated by the U.K. Prudential Regulation Authority (the "PRA"), a subsidiary of the Bank of England which has responsibility for prudential regulation of banks and other systemically important institutions, and by the Financial Conduct Authority ("FCA"), which regulates prudential matters for firms that are not so regulated by the PRA and conduct matters for all market participants. JPMorgan Chase's other non-U.S. subsidiaries are regulated by the banking and securities regulatory authorities in the countries in which they operate. See Securities and broker-dealer regulation, Investment management regulation and Derivatives regulation below. In addition, JPMorgan Chase's consumer activities are subject to supervision and regulation by the Consumer Financial Protection Bureau ("CFPB") and to regulation

under various state statutes which are enforced by the respective state's Attorney General.

Scope of permissible business activities. The Bank Holding Company Act generally restricts BHCs from engaging in business activities other than the business of banking and certain closely related activities. Financial holding companies generally can engage in a broader range of financial activities than are otherwise permissible for BHCs, including underwriting, dealing and making markets in securities, and making merchant banking investments in non-financial companies. The Federal Reserve has the authority to limit a financial holding company's ability to conduct otherwise permissible activities if the financial holding company or any of its depositary institution subsidiaries ceases to meet the applicable eligibility requirements (including requirements that the holding company and each of its U.S. depository institution subsidiaries maintain their status as "well-capitalized" and "well-managed"). The Federal Reserve may also impose corrective capital and/or managerial requirements on the financial holding company and may, for example, require divestiture of the holding company's depository institutions if the deficiencies persist. Federal regulations also provide that if any depository institution controlled by a financial holding company fails to maintain a satisfactory rating under the Community Reinvestment Act, the Federal Reserve must prohibit the financial holding company and its subsidiaries from engaging in any activities other than those permissible for bank holding companies. In addition, a financial holding company must obtain Federal Reserve approval before engaging in certain banking and other financial activities both in the U.S. and internationally, as further described under Regulation of acquisitions below.

Activities restrictions under the Volcker Rule. Section 619 of the Wall Street Reform and Consumer Protection Act (the "Dodd-Frank Act") (the "Volcker Rule") prohibits banking entities, including JPMorgan Chase, from engaging in certain "proprietary trading" activities, subject to exceptions for underwriting, market-making, risk-mitigating hedging and certain other activities. In addition, the Volcker Rule limits the sponsorship of, and investment in, "covered funds" (as defined by the Volcker Rule) and imposes limits on certain transactions between JPMorgan Chase and its sponsored funds (see JPMorgan Chase's subsidiary banks – Restrictions on transactions with affiliates below). The Volcker Rule requires banking entities to establish comprehensive compliance programs reasonably designed to help ensure and monitor compliance with the restrictions under the Volcker Rule, including, in order to distinguish permissible from impermissible risk-taking activities, the measurement, monitoring and reporting of certain key metrics.

Capital and liquidity requirements. The Federal Reserve establishes capital and leverage requirements for JPMorgan Chase and evaluates its compliance with such requirements. The OCC establishes similar capital and leverage requirements for JPMorgan Chase's national banking subsidiaries. For more information about the applicable requirements relating to risk-based capital and leverage in the U.S. under the most recent capital framework established by the Basel Committee on Banking Supervision (the "Basel Committee")("Basel III"), see Note 28 of JPMorgan Chase's Annual Report on Form 10-K for the year ended December 31, 2016 ("2016 Form 10-K"). Under Basel III, bank holding companies and banks are required to measure their liquidity against two specific liquidity tests: the liquidity coverage ratio ("LCR") and the net stable funding ratio ("NSFR"). The U.S. banking regulators have approved the final LCR rule ("U.S. LCR"), which became effective on January 1, 2015. In April 2016, the U.S. banking regulators issued a proposed rule for NSFR. On December 19, 2016 the Federal Reserve published final U.S. LCR public disclosure requirements. Starting with the second quarter of 2017, JPMorgan Chase will be required to disclose quarterly its consolidated LCR pursuant to the U.S. LCR rule, including JPMorgan Chase's average LCR for the quarter and the key quantitative components of the average LCR in a standardized template, along with a qualitative discussion of material drivers of the ratio, changes over time, and causes of such changes. On September 8, 2016 the Federal Reserve published the framework that will apply to the setting of the countercyclical capital buffer. As of October 24, 2016 the Federal Reserve reaffirmed setting the U.S. countercyclical capital buffer at 0%, and stated that it will review the amount at least annually. Banking supervisors continue to consider refinements and enhancements to the Basel III capital framework for financial institutions. The Basel Committee finalized revisions to market risk capital for trading books and the treatment of interest rate risk in the banking book; other proposals being contemplated by the Basel Committee include revisions to, among others, standardized credit and operational risk capital frameworks, a recalibration of the leverage ratio, revisions to the securitization framework, and changes to the definition of defaulted assets. In January 2017, the Basel Committee announced that the review of the proposals to finalize the post-crisis regulatory reforms has been postponed. After a proposal is finalized by the Basel Committee, U.S. banking regulators would then need to propose requirements applicable to U.S. financial institutions. In March 2016, the Federal Reserve Board released a revised proposal to establish single-counterparty credit limits for large U.S. bank holding companies and foreign banking organizations.

Stress tests. The Federal Reserve has adopted supervisory stress tests for large bank holding companies, including JPMorgan Chase, which form part of the Federal Reserve's annual Comprehensive Capital Analysis and Review ("CCAR") framework. Under the framework, JPMorgan Chase must conduct semi-annual company-run stress tests and, in addition, must submit an annual capital plan to the Federal Reserve, taking into account the results of separate stress tests designed by JPMorgan Chase and the Federal Reserve. In reviewing JPMorgan Chase's capital plan, the Federal Reserve considers both quantitative and qualitative factors. Qualitative assessments include, among other things, the comprehensiveness of the plan, the assumptions

and analysis underlying the plan, and the extent to which JPMorgan Chase has satisfied certain supervisory matters related to JPMorgan Chase's processes and analyses, including the design and operational effectiveness of the controls governing such processes. Moreover, JPMorgan Chase is required to receive a notice of non-objection from the Federal Reserve before taking capital actions, such as paying dividends, implementing common equity repurchase programs or redeeming or repurchasing capital instruments. The OCC requires JPMorgan Chase Bank, N.A. to perform separate, similar annual stress tests. JPMorgan Chase publishes each year the results of its mid-cycle stress tests under JPMorgan Chase's internally-developed "severely adverse" scenario and the results of its (and its two primary subsidiary banks') annual stress tests under the supervisory "severely adverse" scenarios provided by the Federal Reserve and the OCC. JPMorgan Chase will file its 2017 annual CCAR submission on April 5. Results will be published by the Federal Reserve by June 30, with disclosures of results by BHCs, including JPMorgan Chase, to follow within 15 days. The mid-cycle capital stress test submissions are due on October 5 and BHCs, including JPMorgan Chase, will publish results by November 4.

Enhanced prudential standards. The Financial Stability Oversight Council ("FSOC"), among other things, recommends prudential standards and reporting and disclosure requirements to the Federal Reserve for systemically important financial institutions ("SIFIs"), such as JPMorgan Chase. The Federal Reserve has adopted several rules to implement the heightened prudential standards, including final rules relating to risk management and corporate governance of subject BHCs. BHCs with $50 billion or more in total consolidated assets are required to comply with enhanced liquidity and overall risk management standards, and their boards of directors are required to conduct appropriate oversight of their risk management activities. Several additional proposed rules are still being considered, including an "early remediation" framework to address financial distress or material management weaknesses.

Orderly liquidation authority and resolution and recovery. As a BHC with assets of $50 billion or more, JPMorgan Chase is required to submit annually to the Federal Reserve and the FDIC a plan for resolution under the Bankruptcy Code in the event of material distress or failure (a "resolution plan"). The FDIC also requires each insured depository institution with $50 billion or more in assets, such as JPMorgan Chase Bank, N.A. and Chase Bank USA, N.A., to provide a resolution plan. In addition, certain financial companies, including JPMorgan Chase and certain of its subsidiaries, can be subjected to resolution under an "orderly liquidation authority." The U.S. Treasury Secretary, in consultation with the President of the United States, must first make certain extraordinary financial distress and systemic risk determinations, and action must be recommended by the FDIC and the Federal Reserve. Absent such actions, JPMorgan Chase, as a BHC, would remain subject to resolution under the Bankruptcy Code. In December 2013, the FDIC issued a draft policy statement describing its "single point of entry" strategy for resolution of systemically important financial institutions under the orderly liquidation authority. This strategy seeks to keep operating subsidiaries of the BHC open and impose losses on shareholders and creditors of the holding company in receivership according to their statutory order of priority.

On October 1, 2016, JPMorgan Chase filed with the Federal Reserve and FDIC its submission (the "2016 Resolution Submission") describing how JPMorgan Chase remediated certain deficiencies, and providing a status report on its actions to address certain shortcomings, that had been identified by the Federal Reserve and the FDIC in April 2016 when those agencies provided feedback to JPMorgan Chase as well as to seven other systemically important domestic banking institutions on their respective 2015 Resolution Plans.

Among the steps taken by JPMorgan Chase to address the identified deficiencies and shortcomings were the establishment of a new subsidiary that has become an "intermediate holding company" and which has had contributed to it the stock of substantially all of JPMorgan Chase's direct subsidiaries (other than JPMorgan Chase Bank, N.A.), as well as other assets and intercompany indebtedness owing to JPMorgan Chase increasing JPMorgan Chase's liquidity reserves and pre-positioning significant amounts of capital and liquidity at JPMorgan Chase's "material legal entities" (as defined its 2016 Resolution Submission); and refining JPMorgan Chase's liquidity and capital governance frameworks, including establishing a Firm-wide "trigger framework" that identifies key actions and escalations that would need to be taken, as well as decisions that would need to be made, at critical points in time if certain defined liquidity and/or capital metrics were to fall below defined thresholds. On December 13, 2016, the Federal Reserve and the FDIC informed JPMorgan Chase that they had determined that JPMorgan Chase's 2016 Resolution Submission adequately remediated the identified deficiencies in JPMorgan Chase's 2015 Resolution Plan.

JPMorgan Chase has a comprehensive recovery plan detailing the actions it would take to avoid failure by remaining well-capitalized and well-funded in the case of an adverse event. JPMorgan Chase has provided the Federal Reserve with comprehensive confidential supervisory information and analyses about JPMorgan Chase's businesses, legal entities and corporate governance and about its crisis management governance, capabilities and available alternatives to raise liquidity and capital in severe market circumstances. The OCC has published guidelines establishing standards for recovery planning by insured national banks, and JPMorgan Chase Bank, N.A. and Chase Bank USA, N.A. have submitted their recovery plans to the OCC. In addition, certain of JPMorgan Chase's non-U.S. subsidiaries are subject to resolution and recovery planning requirements in the jurisdictions in which they operate.

Regulators in the U.S. and abroad continue to be focused on developing measures designed to address the possibility or

perception that large financial institutions, including JPMorgan Chase, may be "too big to fail," and to provide safeguards so that, if a large financial institution does fail, it can be resolved without the use of public funds. Higher capital surcharges on global systemically important banks ("GSIBs"), requirements for certain large bank holding companies to maintain a minimum amount of long-term debt to facilitate orderly resolution of those firms, and the International Swaps and Derivatives Association ("ISDA") protocol relating to the "close-out" of derivatives transactions during the resolution of a large cross-border financial institution, are examples of initiatives to address "too big to fail." For further information on the ISDA close-out protocol, see Derivatives regulation below.

Holding company as source of strength for bank subsidiaries. JPMorgan Chase & Co. is required to serve as a source of financial strength for its depository institution subsidiaries and to commit resources to support those subsidiaries. This support may be required by the Federal Reserve at times when JPMorgan Chase might otherwise determine not to provide it.

Regulation of acquisitions. Acquisitions by bank holding companies and their banks are subject to multiple requirements by the Federal Reserve and the OCC. For example, financial holding companies and bank holding companies are required to obtain the approval of the Federal Reserve before they may acquire more than 5% of the voting shares of an unaffiliated bank. In addition, acquisitions by financial companies are prohibited if, as a result of the acquisition, the total liabilities of the financial company would exceed 10% of the total liabilities of all financial companies. In addition, for certain acquisitions, JPMorgan Chase must provide written notice to the Federal Reserve prior to acquiring direct or indirect ownership or control of any voting shares of any company with over $10 billion in assets that is engaged in activities that are "financial in nature."

JPMorgan Chase's subsidiary banks:

JPMorgan Chase's two primary subsidiary banks, JPMorgan Chase Bank, N.A. and Chase Bank USA, N.A., are FDIC-insured national banks regulated by the OCC. As national banks, the activities of JPMorgan Chase Bank, N.A. and Chase Bank USA, N.A. are limited to those specifically authorized under the National Bank Act and related interpretations by the OCC.

FDIC deposit insurance. The FDIC deposit insurance fund provides insurance coverage for certain deposits and is funded through assessments on banks, such as JPMorgan Chase Bank, N.A. and Chase Bank USA, N.A. Changes in the methodology used to calculate such assessments, resulting from the enactment of the Dodd-Frank Act, significantly increased the assessments that JPMorgan Chase's bank subsidiaries pay annually to the FDIC. The FDIC instituted a new assessment surcharge on insured depository institutions with total consolidated assets greater than $10 billion in order to raise the reserve ratio for the FDIC deposit insurance fund. Future FDIC rule-making could further increase such assessments.

FDIC powers upon a bank insolvency. Upon the insolvency of an insured depository institution, such as JPMorgan Chase Bank, N.A., the FDIC could be appointed as the conservator or receiver under the Federal Deposit Insurance Act ("FDIA"). The FDIC has broad powers to transfer any assets and liabilities without the approval of the institution's creditors.

Cross-guarantee. An FDIC-insured depository institution can be held liable for any loss incurred or expected to be incurred by the FDIC if another FDIC-insured institution that is under common control with such institution is in default or is deemed to be "in danger of default" (commonly referred to as "cross-guarantee" liability). An FDIC cross-guarantee claim against a depository institution is generally superior in right of payment to claims of the holding company and its affiliates against such depository institution.

Prompt corrective action and early remediation. The Federal Deposit Insurance Corporation Improvement Act of 1991 requires the relevant federal banking regulator to take "prompt corrective action" with respect to a depository institution if that institution does not meet certain capital adequacy standards. While these regulations apply only to banks, such as JPMorgan Chase Bank, N.A. and Chase Bank USA, N.A., the Federal Reserve is authorized to take appropriate action against the parent BHC, such as JPMorgan Chase & Co., based on the undercapitalized status of any bank subsidiary. In certain instances, the BHC would be required to guarantee the performance of the capital restoration plan for its undercapitalized subsidiary.

OCC Heightened Standards. The OCC has established guidelines setting forth heightened standards for large banks. The guidelines establish minimum standards for the design and implementation of a risk governance framework for banks. While the bank can use certain components of the parent company's risk governance framework, the framework must ensure that the bank's risk profile is easily distinguished and separate from the parent for risk management purposes. The bank's board or risk committee is responsible for approving the bank's risk governance framework, providing active oversight of the bank's risk-taking activities, and holding management accountable for adhering to the risk governance framework.

Restrictions on transactions with affiliates. The bank subsidiaries of JPMorgan Chase & Co. are subject to certain restrictions imposed by federal law on extensions of credit to, investments in stock or securities of, and derivatives, securities lending and certain other transactions with, JPMorgan Chase & Co. and certain other affiliates. These restrictions prevent JPMorgan Chase & Co. and other affiliates from borrowing from a bank subsidiary unless the loans are secured in specified amounts and comply with certain other requirements. For more information, see Note 25. In addition, the Volcker Rule imposes a prohibition on such transactions between any JPMorgan Chase entity and covered funds for which a JPMorgan Chase entity serves as the investment manager, investment advisor, commodity

trading advisor or sponsor, as well as, subject to a limited exception, any covered fund controlled by such funds.

Dividend restrictions. Federal law imposes limitations on the payment of dividends by national banks, such as JPMorgan Chase Bank, N.A. See Note 25 for the amount of dividends that JPMorgan Chase Bank, N.A. could pay, at January 1, 2017, to JPMorgan Chase without the approval of its banking regulators.

In addition to the dividend restrictions described above, the OCC and the Federal Reserve have authority to prohibit or limit the payment of dividends of the banking organizations they supervise, including JPMorgan Chase and its bank and BHC subsidiaries, if, in the banking regulator's opinion, payment of a dividend would constitute an unsafe or unsound practice in light of the financial condition of the banking organization.

Depositor preference. Under federal law, the claims of a receiver of an insured depository institution for administrative expense and the claims of holders of U.S. deposit liabilities (including the FDIC and foreign deposits that are payable in the U.S. as well as in a foreign branch) have priority over the claims of other unsecured creditors of the institution, including public noteholders and depositors in non-U.S. offices. As a result, such persons could receive substantially less than the depositors in U.S. offices of the depository institution.

CFPB regulation and supervision, and other consumer regulations. JPMorgan Chase and its national bank subsidiaries, including JPMorgan Chase Bank, N.A. and Chase Bank USA, N.A., are subject to supervision and regulation by the CFPB with respect to federal consumer protection laws, including laws relating to fair lending and the prohibition of unfair, deceptive or abusive acts or practices in connection with the offer, sale or provision of consumer financial products and services. These laws include the Truth-in-Lending, Equal Credit Opportunity Act ("ECOA"), Fair Credit Reporting, Fair Debt Collection Practice, Electronic Funds Transfer, Credit Card Accountability, Responsibility and Disclosure ("CARD") and Home Mortgage Disclosure Acts. The CFPB has authority to impose new disclosure requirements for any consumer financial product or service. The CFPB's rule-making efforts have addressed mortgage-related topics, including ability to repay and qualified mortgage standards, mortgage servicing standards, loan originator compensation standards, high-cost mortgage requirements, Home Mortgage Disclosure Act requirements, appraisal and escrow standards and requirements for higher-priced mortgages. The CFPB continues to issue informal guidance on a variety of topics (such as the collection of consumer debts and credit card marketing practices). Other areas of focus include sales incentives, pre-authorized electronic funds transfers, "add-on" products, matters involving consumer populations considered vulnerable by the CFPB (such as students), credit reporting, and the furnishing of credit scores to individuals. As part of its regulatory oversight, the CFPB has taken enforcement actions against certain financial institutions, including JPMorgan Chase.

The activities of JPMorgan Chase Bank, N.A. and Chase Bank USA, N.A. as consumer lenders also are subject to regulation under various state statutes which are enforced by the respective state's Attorney General.

Securities and broker-dealer regulation:
JPMorgan Chase conducts securities underwriting, dealing and brokerage activities in the U.S. through J.P. Morgan Securities LLC and other broker-dealer subsidiaries, all of which are subject to regulations of the SEC, the Financial Industry Regulatory Authority and the New York Stock Exchange, among others. JPMorgan Chase conducts similar securities activities outside the U.S. subject to local regulatory requirements. In the U.K., those activities are conducted by J.P. Morgan Securities plc and are regulated PRA and the FCA. Broker-dealers are subject to laws and regulations covering all aspects of the securities business, including sales and trading practices, securities offerings, publication of research reports, use of customers' funds, the financing of clients' purchases, capital structure, record-keeping and retention, and the conduct of their directors, officers and employees. In addition, rules adopted by the Department of Labor would impose (among other things) a new standard of care applicable to broker-dealers when dealing with customers. For more information see - Investment management regulation below.

Investment management regulation:
JPMorgan Chase's asset management businesses are subject to significant investment management regulation in numerous jurisdictions around the world relating to, among other things, the safeguarding of client assets, offerings of funds, marketing activities, transactions among affiliates and management of client funds. Certain of JPMorgan Chase's subsidiaries are registered with, and subject to oversight by, the SEC as investment advisers. As such, JPMorgan Chase's registered investment advisers are subject to the fiduciary and other obligations imposed under the Investment Advisers Act of 1940 and the rules and regulations promulgated thereunder, as well as various state securities laws. For information regarding investigations and litigation in connection with disclosures to clients related to proprietary products, see Note 29.

JPMorgan Chase's asset management businesses continue to be affected by ongoing rule-making and implementation of new regulations. The SEC amendments to rules that govern money-market funds, requiring a floating net asset value for institutional prime money-market funds became effective October 14, 2016. In addition, the SEC adopted amendments regarding enhanced liquidity risk management for open-end mutual funds and exchange-traded funds ("ETFs") and enhanced reporting for funds and advisors. The Department of Labor ("DOL") "fiduciary" rule would significantly expand the universe of persons viewed as investment advice fiduciaries to retirement plans and individual retirement accounts ("IRAs") under the Employee Retirement Income Security Act of 1974, as amended ("ERISA"). Among the most significant impacts of the rule and related prohibited transaction exemptions would be the impact on the fee and compensation practices at financial

institutions that offer investment advice to retail retirement clients. The related exemptions would require new client contracts, adherence to "impartial conduct" standards (including a requirement to act in the "best interest" of retirement clients), implementation of policies and procedures, websites and other disclosures to both investors and the DOL. The rule was due to become applicable from April 10, 2017; however following a recent memorandum from the White House directing review of the rule, the DOL announced that it is considering legal options for delaying the rule's applicability.

Derivatives regulation:
JPMorgan Chase is subject to comprehensive regulation of its derivatives businesses. The regulations impose capital and margin requirements (including the collecting and posting of variation margin and initial margin in respect of non-centrally cleared derivatives), require central clearing of standardized over-the-counter ("OTC") derivatives, require that certain standardized over-the-counter swaps be traded on regulated trading venues, and provide for reporting of certain mandated information. In addition, the Dodd-Frank Act requires the registration of "swap dealers" and "major swap participants" with the CFTC and of "security-based swap dealers" and "major security-based swap participants" with the SEC. JPMorgan Chase Bank, N.A., J.P. Morgan Securities LLC, J.P. Morgan Securities plc and J.P. Morgan Ventures Energy Corporation have registered with the CFTC as swap dealers, and JPMorgan Chase Bank, N.A., J.P. Morgan Securities LLC and J.P. Morgan Securities plc may be required to register with the SEC as security-based swap dealers. As a result of their registration as swap dealers or security-based swap dealers, these entities will be subject to a comprehensive regulatory framework applicable to their swap or security-based swap activities, which includes capital requirements, rules regulating their swap activities, rules requiring the collateralization of uncleared swaps, rules regarding segregation of counterparty collateral, business conduct and documentation standards, record-keeping and reporting obligations, and anti-fraud and anti-manipulation requirements. Further, some of the rules for derivatives apply extraterritorially to U.S. firms doing business with clients outside of the U.S., as well as to the overseas activities of non-U.S. subsidiaries of JPMorgan Chase that either deal with U.S. persons or that are guaranteed by U.S. subsidiaries of JPMorgan Chase; however, the full scope of the extra-territorial impact of the U.S. swaps regulation has not been finalized and therefore remains unclear. The effect of these rules may require banking entities, such as JPMorgan Chase, to modify the structure of their derivatives businesses and face increased operational and regulatory costs. In the European Union (the "EU"), the implementation of the European Market Infrastructure Regulation ("EMIR") and the revision of the Markets in Financial Instruments Directive ("MiFID II") will result in comparable, but not identical, changes to the European regulatory regime for derivatives. The combined effect of the U.S. and EU requirements, and the potential conflicts and inconsistencies between them, present challenges and risks to the structure and operating model of JPMorgan Chase's derivatives businesses.

JPMorgan Chase and other financial institutions have agreed to adhere to an updated Resolution Stay Protocol developed by ISDA in response to regulator concerns that the close-out of derivatives and other financial transactions during the resolution of a large cross-border financial institution could impede resolution efforts and potentially destabilize markets. The Resolution Stay Protocol provides for the contractual recognition of cross-border stays under various statutory resolution regimes and a contractual stay on certain cross-default rights.

In the U.S., one subsidiary of JPMorgan Chase is registered as a futures commission merchant, and other subsidiaries are either registered with the CFTC as commodity pool operators and commodity trading advisors or are exempt from such registration. These CFTC-registered subsidiaries are also members of the National Futures Association.

Data regulation:
JPMorgan Chase and its subsidiaries are subject to federal, state and international laws and regulations concerning the use and protection of certain customer, employee and other personal and confidential information, including those imposed by the Gramm-Leach-Bliley Act and the Fair Credit Reporting Act, as well as the EU Data Protection Directive. In addition, various U.S. regulators, including the Federal Reserve, the OCC and the SEC, have increased their focus on cybersecurity through guidance, examinations and regulations.

In May 2018, the General Data Protection Regulation ("GDPR") will replace the EU Data Protection Directive, and it will have a significant impact on how businesses can collect and process the personal data of EU individuals. In addition, numerous proposals regarding privacy and data protection are pending before U.S. and non-U.S. legislative and regulatory bodies.

The Bank Secrecy Act and Economic Sanctions:
The Bank Secrecy Act ("BSA") requires all financial institutions, including banks and securities broker-dealers, to, among other things, establish a risk-based system of internal controls reasonably designed to prevent money laundering and the financing of terrorism. The BSA includes a variety of record-keeping and reporting requirements (such as cash transaction and suspicious activity reporting), as well as due diligence/know your customer documentation requirements. In January 2013, JPMorgan Chase entered into Consent Orders with its banking regulators relating to JPMorgan Chase's Bank Secrecy Act/Anti-Money Laundering policies, procedures and controls; JPMorgan Chase has taken significant steps to modify and enhance its processes and controls with respect to its Anti-Money Laundering procedures and to remediate the issues identified in the Consent Order. JPMorgan Chase is also subject to the regulations and economic sanctions programs administered by the U.S. Treasury's Office of Foreign Assets Control ("OFAC").

Anti-Corruption:

JPMorgan Chase is subject to laws and regulations relating to corrupt and illegal payments to government officials and others in the jurisdictions in which it operates, including the U.S. Foreign Corrupt Practices Act and the U.K. Bribery Act. For more information on JPMorgan Chase's consent judgment and non-prosecution agreement relating to referral hiring practices, see Note 29.

Compensation practices:

JPMorgan Chase's compensation practices are subject to oversight by the Federal Reserve, as well as other agencies. The Federal Reserve has issued guidance jointly with the FDIC and the OCC that is designed to ensure that incentive compensation paid by banking organizations does not encourage imprudent risk-taking that threatens the organizations' safety and soundness. In addition, under the Dodd-Frank Act, federal regulators, including the Federal Reserve, must issue regulations or guidelines requiring covered financial institutions, including JPMorgan Chase, to report the structure of all incentive-based compensation arrangements and prohibit incentive-based payment arrangements that encourage inappropriate risks by providing compensation that is excessive or that could lead to material financial loss to the institution. Proposed regulations were issued in 2016, and the public comment period has closed. Final regulations have not yet been published. The Federal Reserve has conducted a review of the incentive compensation policies and practices of a number of large banking institutions, including JPMorgan Chase. In addition to the Federal Reserve, the Financial Stability Board has established standards covering compensation principles for banks. In Europe, the Fourth Capital Requirements Directive ("CRD IV") includes compensation provisions and the European Banking Authority has instituted guidelines on compensation policies under CRD IV. In the U.K., compensation standards are governed by the Remuneration Code of the PRA and the FCA. The implementation of the Federal Reserve's and other banking regulators' guidelines regarding compensation are expected to evolve over the next several years, and may affect the manner in which JPMorgan Chase structures its compensation programs and practices.

Significant international regulatory initiatives:

In the EU, there is an extensive and complex program of final and proposed regulatory enhancement that reflects, in part, the EU's commitments to policies of the Group of Twenty Finance Ministers and Central Bank Governors ("G-20") together with other plans specific to the EU. The EU operates a European Systemic Risk Board that monitors financial stability, together with European Supervisory Agencies that set detailed regulatory rules and encourage supervisory convergence across the 28 Member States. The EU has also created a Single Supervisory Mechanism for the euro-zone, under which the regulation of all banks in that zone will be under the auspices of the European Central Bank, together with a Single Resolution Mechanism and Single Resolution Board, having jurisdiction over bank resolution in the zone. At both the G-20 and EU levels, various proposals are under consideration to address risks associated with global financial institutions. Some of the initiatives adopted include increased capital requirements for certain trading instruments or exposures and compensation limits on certain employees located in affected countries.

Guided by the G20 policy framework, the EU and national financial regulators have proposed or adopted several market reforms, including EMIR, which requires, among other things, the central clearing of standardized derivatives; and MiFID II, which gives effect to the G-20 commitment to trading of derivatives through central clearing houses and exchanges and also includes significantly enhanced requirements for pre- and post-trade transparency and a significant reconfiguration of the regulatory supervision of execution venues. Key aspects of EMIR and MiFID II have been finalized, although the implementation date of MiFID II has been delayed to 2018.

The EU is also currently considering or implementing significant revisions to laws covering depositary activities; credit-rating activities; resolution of banks, investment firms and market infrastructures; anti-money laundering controls; data security and privacy; corporate governance in financial firms; and implementation in the EU of the Basel III capital and liquidity standards, including the introduction of an intermediate holding company requirement for foreign banks and the implementation of the standard for TLAC.

The EU is also considering proposed legislation providing for a proprietary trading ban and mandatory separation of other trading activities within certain banks; various EU Member States have separately enacted similar measures. In the U.K., legislation was adopted that mandates the separation (or "ring-fencing") of deposit-taking activities from securities trading and other analogous activities within banks, subject to certain exemptions. The legislation includes the supplemental recommendation of the Parliamentary Commission on Banking Standards (the "Tyrie Commission") that such ring-fences should be "electrified" by the imposition of mandatory forced separation on banking institutions that are deemed to test the limits of the safeguards. Parallel but distinct provisions have been enacted by the French and German governments. These measures may separately or taken together have significant implications for JPMorgan Chase's organizational structure in Europe, as well as its permitted activities and capital deployment in the EU.

Much of the G20 policy framework has been finalized; however, the Basel Committee is currently reviewing the framework, and proposing recalibrations of certain requirements. As such, the EU is considering or implementing significant revisions to laws covering: bank and investment firm recovery and resolution; bank structure; securities settlement; transparency and disclosure of securities financing transactions; benchmarks; resolution of market infrastructures (central counterparties ("CCPs")); anti-money laundering controls; data security and privacy; and corporate governance in financial firms; together with new amendments to capital and liquidity standards.

Consistent with the G20 and EU policy frameworks, U.K. regulators have adopted a range of policy measures that have significantly changed the markets and prudential regulatory environment in the U.K. In addition to broad recommendations made by the Fair and Effective Markets Review which focused on fixed income currencies and commodities markets, U.K. regulators are considering measures to raise standards and accountability of individuals, and promote forward-looking conduct risk identification and mitigation, including by introducing the new Senior Managers and Certification Regimes.

On June 23, 2016, the U.K. voted by referendum to leave the European Union ("Brexit"). The U.K. Government has since announced that it will invoke Article 50 of the Lisbon Treaty and will start the formal exit negotiations by the end of March 2017, giving an expected exit date of the end of March 2019. More recently, the British Prime Minister laid out twelve "negotiation objectives" for Brexit, which confirmed the U.K. will not remain a member of the Single Market, but will pursue a Free Trade Agreement that provides the greatest possible access to the Single Market. Further, the U.K. Government will seek a phased arrangement to ensure the orderly transition of the legal and regulatory framework for financial services, and promote stability and market confidence. Following a recent ruling by the U.K. Supreme Court, the House of Commons approved legislation on February 8, 2017 that allows the British Prime Minister to invoke Article 50. The legislation must now be approved by the House of Lords before it is signed into law.

Many international banks, including JPMorgan Chase, operate substantial parts of their European Union businesses from entities based in the U.K. Upon the U.K. leaving the European Union, the regulatory and legal environment that would then exist, and to which JPMorgan Chase's U.K. operations would then be subject, will depend on, in certain respects, the nature of the arrangements the U.K. agreed with the European Union and other trading partners. These arrangements cannot be predicted, but currently JPMorgan Chase does not believe any of the likely identified scenarios would threaten the viability of JPMorgan Chase's business units or JPMorgan Chase's ability to serve clients across the European Union and in the U.K. However, it is possible that under some scenarios, changes to JPMorgan Chase's legal entity structure and operations would be required, which might result in a less efficient operating model across JPMorgan Chase's European legal entities.

JPMorgan Chase is in the process of evaluating plans to ensure its continued ability to operate in the U.K. and the EU beyond the expected exit date.

Consolidation

The Consolidated Financial Statements include the accounts of JPMorgan Chase Bank, N.A. and other entities in which JPMorgan Chase Bank, N.A. 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 JPMorgan Chase Bank, N.A. are not assets of JPMorgan Chase Bank, N.A. and are not included on the Consolidated balance sheets.

JPMorgan Chase Bank, N.A. 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.

Effective January 1, 2016, JPMorgan Chase Bank, N.A. adopted new accounting guidance related to the consolidation of legal entities such as limited partnerships, limited liability corporations, and securitization structures. The guidance eliminated the deferral issued by the Financial Accounting Standards Board ("FASB") in February 2010 of the accounting guidance for VIEs for certain investment funds, including mutual funds, private equity funds and hedge funds. In addition, the guidance amends the evaluation of fees paid to a decision-maker or a service provider, and exempts certain money market funds from consolidation. Furthermore, asset management funds structured as limited partnerships or certain limited liability companies are now evaluated for consolidation as voting interest entities if the non-managing partners or members have the ability to remove JPMorgan Chase Bank, N.A. as the general partner or managing member without cause (i.e., kick-out rights) based on a simple majority vote, or the non-affiliated partners or members have rights to participate in important decisions. Accordingly, JPMorgan Chase Bank, N.A. does not consolidate these voting interest entities. However, in the limited cases where the non-managing partners or members do not have substantive kick-out or participating rights, JPMorgan Chase Bank, N.A. evaluates the funds as VIEs and consolidates if it is the general partner or managing member and has a potentially significant variable interest. There was no material impact on JPMorgan Chase Bank, N.A.'s Consolidated Financial Statements upon adoption of this accounting guidance.

Voting Interest Entities
Voting interest entities are entities that have sufficient equity and provide the equity investors voting rights that enable them to make significant decisions relating to the entity's operations. For these types of entities, JPMorgan Chase Bank, N.A.'s determination of whether it has a controlling interest is primarily based on the amount of voting equity interests held. Entities in which JPMorgan Chase Bank, N.A. has a controlling financial interest, through ownership of the majority of the entities' voting equity interests, or through other contractual rights that give JPMorgan Chase Bank, N.A. control, are consolidated by JPMorgan Chase Bank, N.A.

Investments in companies in which JPMorgan Chase Bank, N.A. has significant influence over operating and financing decisions (but does not own a majority of the voting equity interests) are accounted for (i) in accordance with the equity method of accounting (which requires JPMorgan Chase Bank, N.A. to recognize its proportionate share of the entity's net earnings), or (ii) at fair value if the fair value option was elected. These investments are generally

included in other assets, with income or loss included in other income.

Certain JPMorgan Chase Bank, N.A.-sponsored asset management funds are structured as limited partnerships or limited liability companies. While JPMorgan Chase Bank, N.A. acts as investment advisor for these structures and is responsible for day to day decision-making, equity interests held in the structures, if any, are insignificant and the non-affiliated members of the Boards of Directors have the ability to remove JPMorgan Chase Bank, N.A. as advisor without cause. Accordingly, JPMorgan Chase Bank, N.A. does not consolidate these funds.

JPMorgan Chase Bank, N.A.'s investment companies have investments in both publicly-held and privately-held entities. These investments are accounted for under investment company guidelines and accordingly, irrespective of the percentage of equity ownership interests held, are carried on the Consolidated balance sheets at fair value, and are recorded in other assets.

Variable Interest Entities

VIEs are entities that, by design, either (1) lack sufficient equity to permit the entity to finance its activities without additional subordinated financial support from other parties, or (2) have equity investors that do not have the ability to make significant decisions relating to the entity's operations through voting rights, or do not have the obligation to absorb the expected losses, or do not have the right to receive the residual returns of the entity.

The most common type of VIE is a special purpose entity ("SPE"). SPEs are commonly used in securitization transactions in order to isolate certain assets and distribute the cash flows from those assets to investors. The basic SPE structure involves a company selling assets to the SPE; the SPE funds the purchase of those assets by issuing securities to investors. The legal documents that govern the transaction specify how the cash earned on the assets must be allocated to the SPE's investors and other parties that have rights to those cash flows. SPEs are generally structured to insulate investors from claims on the SPE's assets by creditors of other entities, including the creditors of the seller of the assets.

The primary beneficiary of a VIE (i.e., the party that has a controlling financial interest) is required to consolidate the assets and liabilities of the VIE. The primary beneficiary is the party that has both (1) the power to direct the activities of the VIE that most significantly impact the VIE's economic performance; and (2) through its interests in the VIE, the obligation to absorb losses or the right to receive benefits from the VIE that could potentially be significant to the VIE.

To assess whether JPMorgan Chase Bank, N.A. has the power to direct the activities of a VIE that most significantly impact the VIE's economic performance, JPMorgan Chase Bank, N.A. considers all the facts and circumstances, including its role in establishing the VIE and its ongoing rights and responsibilities. This assessment includes, first, identifying the activities that most significantly impact the VIE's economic performance; and second, identifying which party, if any, has power over those activities. In general, the parties that make the most significant decisions affecting the VIE (such as asset managers, collateral managers, servicers, or owners of call options or liquidation rights over the VIE's assets) or have the right to unilaterally remove those decision-makers are deemed to have the power to direct the activities of a VIE.

To assess whether JPMorgan Chase Bank, N.A. has the obligation to absorb losses of the VIE or the right to receive benefits from the VIE that could potentially be significant to the VIE, JPMorgan Chase Bank, N.A. considers all of its economic interests, including debt and equity investments, servicing fees, and derivatives or other arrangements deemed to be variable interests in the VIE. This assessment requires that JPMorgan Chase Bank, N.A. apply judgment in determining whether these interests, in the aggregate, are considered potentially significant to the VIE. Factors considered in assessing significance include: the design of the VIE, including its capitalization structure; subordination of interests; payment priority; relative share of interests held across various classes within the VIE's capital structure; and the reasons why the interests are held by JPMorgan Chase Bank, N.A.

JPMorgan Chase Bank, N.A. performs on-going reassessments of: (1) whether entities previously evaluated under the majority voting-interest framework have become VIEs, based on certain events, and therefore subject to the VIE consolidation framework; and (2) whether changes in the facts and circumstances regarding JPMorgan Chase Bank, N.A.'s involvement with a VIE cause JPMorgan Chase Bank, N.A.'s consolidation conclusion to change.

Use of estimates in the preparation of consolidated financial statements

The preparation of the Consolidated Financial Statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, revenue and expense, and disclosures of contingent assets and liabilities. Actual results could be different from these estimates.

Foreign currency translation

JPMorgan Chase Bank, N.A. revalues assets, liabilities, revenue and expense denominated in non-U.S. currencies into U.S. dollars using applicable exchange rates.

Gains and losses relating to translating functional currency financial statements for U.S. reporting are included in other comprehensive income/(loss) ("OCI") within stockholder's equity. Gains and losses relating to nonfunctional currency transactions, including non-U.S. operations where the functional currency is the U.S. dollar, are reported in the Consolidated statements of income.

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 sold and purchased under

repurchase agreements to be presented net when specified conditions are met, including the existence of a legally enforceable master netting agreement. JPMorgan Chase Bank, N.A. has elected to net such balances when the specified conditions are met.

JPMorgan Chase Bank, N.A. uses master netting agreements with third parties and affiliates to mitigate counterparty credit risk in certain transactions, including derivatives transactions, repurchase and reverse repurchase agreements, and securities borrowed and loaned agreements. A master netting agreement is a single contract with a counterparty that permits multiple transactions governed by that contract to be terminated 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 after expiration of any grace period). Upon the exercise of termination rights by the non-defaulting party (i) all transactions are terminated, (ii) all transactions are valued and the positive value or "in the money" transactions are netted against the negative value or "out of the money" transactions and (iii) the only remaining payment obligation is of one of the parties to pay the netted termination amount. Upon exercise of repurchase agreement and securities loan default rights in general (i) all transactions are terminated and accelerated, (ii) all values of securities or cash held or to be delivered are calculated, and all such sums are netted against each other and (iii) the only remaining payment obligation is of one of the parties to pay the netted termination amount.

Typical master netting agreements for these types of transactions also often contain a collateral/margin agreement that provides for a security interest in, or title transfer of, securities or cash collateral/margin to the party that has the right to demand margin (the "demanding party"). The collateral/margin agreement typically requires a party to transfer collateral/margin to the demanding party with a value equal to the amount of the margin deficit on a net basis across all transactions governed by the master netting agreement, less any threshold. The collateral/margin agreement grants to the demanding party, upon default by the counterparty, the right to set-off any amounts payable by the counterparty against any posted collateral or the cash equivalent of any posted collateral/margin. It also grants to the demanding party the right to liquidate collateral/margin and to apply the proceeds to an amount payable by the counterparty.

For further discussion of JPMorgan Chase Bank, N.A.'s derivative instruments, see Note 7. For further discussion of JPMorgan Chase Bank, N.A.'s repurchase and reverse repurchase agreements, and securities borrowing and lending agreements, see Note 14.

Statements of cash flows

For JPMorgan Chase Bank, N.A.'s Consolidated statements of cash flows, cash is defined as those amounts included in cash and due from banks.

Significant accounting policies

The following table identifies JPMorgan Chase Bank, N.A.'s other significant accounting policies and the Note and page where a detailed description of each policy can be found.

Policy	Note	Page
Fair value measurement	Note 4	Page 20
Fair value option	Note 5	Page 38
Derivative instruments	Note 7	Page 42
Noninterest revenue	Note 8	Page 57
Interest income and interest expense	Note 9	Page 59
Pension and other postretirement employee benefit plans	Note 10	Page 59
Employee stock-based incentives	Note 11	Page 65
Securities	Note 13	Page 67
Securities financing activities	Note 14	Page 73
Loans	Note 15	Page 76
Allowance for credit losses	Note 16	Page 95
Variable interest entities	Note 17	Page 100
Goodwill and Mortgage servicing rights	Note 18	Page 109
Premises and equipment	Note 19	Page 111
Long-term debt	Note 21	Page 112
Related party transactions	Note 22	Page 114
Income taxes	Note 24	Page 116
Off-balance sheet lending-related financial instruments, guarantees and other commitments	Note 27	Page 120
Litigation	Note 29	Page 127

Note 2 – ACCOUNTING AND REPORTING DEVELOPMENTS

FASB Standards adopted during 2016

Standard	Summary of guidance	Effects on financial statements
Amendments to the consolidation analysis	• Eliminates the deferral issued by the FASB in February 2010 of VIE-related accounting requirements for certain investment funds, including mutual funds, private equity funds and hedge funds. • Amends the evaluation of fees paid to a decision-maker or a service provider, and exempts certain money market funds from consolidation.	• Adopted January 1, 2016. • There was no material impact on JPMorgan Chase Bank, N.A.'s Consolidated Financial Statements. • For further information, see Note 1.
Improvements to employee share-based payment accounting	• Requires that all excess tax benefits and tax deficiencies that pertain to employee stock-based incentive payments be recognized within income tax expense in the Consolidated statements of income.	• Adopted January 1, 2016. • There was no material impact on JPMorgan Chase Bank, N.A.'s Consolidated Financial Statements.
Measuring the financial assets and financial liabilities of a consolidated collateralized financing entity	• Provides an alternative for consolidated financing VIEs to elect: (1) to measure their financial assets and liabilities separately under existing U.S. GAAP for fair value measurement with any differences in such fair values reflected in earnings; or (2) to measure both their financial assets and liabilities using the more observable of the fair value of the financial assets or the fair value of the financial liabilities.	• Adopted January 1, 2016. • There was no material impact on JPMorgan Chase Bank, N.A.'s Consolidated Financial Statements as JPMorgan Chase Bank, N.A. has historically measured the financial assets and liabilities using the more observable fair value.
Recognition and measurement of financial assets and financial liabilities – DVA to OCI	• For financial liabilities where the fair value option has been elected, the portion of the total change in fair value caused by changes in JPMorgan Chase Bank, N.A.'s own credit risk (i.e., debit valuation adjustments ("DVA") is required to be presented separately in OCI. • Requires a cumulative-effect adjustment to retained earnings as of the beginning of the period of adoption.	• Adopted January 1, 2016. • There was no material impact on JPMorgan Chase Bank, N.A.'s Consolidated Financial Statements. • For additional information about the impact of the adoption of the new accounting guidance, see Notes 4, 5 and 23.

FASB Standards issued but not yet adopted

Standard	Summary of guidance	Effects on financial statements
Revenue recognition – revenue from contracts with customers *Issued May 2014*	• Requires that revenue from contracts with customers be recognized upon transfer of control of a good or service in the amount of consideration expected to be received. • Changes the accounting for certain contract costs, including whether they may be offset against revenue in the Consolidated statements of income, and requires additional disclosures about revenue and contract costs. • May be adopted using a full retrospective approach or a modified, cumulative effect approach wherein the guidance is applied only to existing contracts as of the date of initial application, and to new contracts transacted after that date.	• Required effective date: January 1, 2018.[a] • Because the guidance does not apply to revenue associated with financial instruments, including loans and securities that are accounted for under other U.S. GAAP, JPMorgan Chase Bank, N.A. does not expect the new revenue recognition guidance to have a material impact on the elements of its Consolidated statements of income most closely associated with financial instruments, including securities gains, interest income and interest expense. • JPMorgan Chase Bank, N.A. plans to adopt the revenue recognition guidance in the first quarter of 2018. JPMorgan Chase Bank, N.A.'s implementation efforts include the identification of revenue within the scope of the guidance, as well as the evaluation of revenue contracts and related accounting policies. While JPMorgan Chase Bank, N.A. has not yet identified any material changes in the timing of revenue recognition, JPMorgan Chase Bank, N.A.'s review is ongoing, and it continues to evaluate the presentation of certain contract costs (whether presented gross or offset against noninterest revenue).
Recognition and measurement of financial assets and financial liabilities *Issued January 2016*	• Requires that certain equity instruments be measured at fair value, with changes in fair value recognized in earnings. • Generally requires a cumulative-effect adjustment to retained earnings as of the beginning of the reporting period of adoption.	• Required effective date: January 1, 2018. • JPMorgan Chase Bank, N.A. is currently evaluating the potential impact on the Consolidated Financial Statements. JPMorgan Chase Bank, N.A.'s implementation efforts include the identification of securities within the scope of the guidance, the evaluation of the measurement alternative available for equity securities without a readily determinable fair value, and the related impact to accounting policies, presentation, and disclosures.
Leases *Issued February 2016*	• Requires lessees to recognize all leases longer than twelve months on the Consolidated balance sheets as lease liabilities with corresponding right-of-use assets. • 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 disclosures regarding leasing arrangements. • Requires adoption using a modified cumulative effect approach wherein the guidance is applied to all periods presented.	• Required effective date: January 1, 2019.[a] • JPMorgan Chase Bank, N.A. is currently evaluating the potential impact on the Consolidated Financial Statements by reviewing its existing lease contracts and service contracts that may include embedded leases. JPMorgan Chase Bank, N.A. expects to recognize lease liabilities and corresponding right-of-use assets (at their present value) related to predominantly all of the $9 billion of future minimum payments required under operating leases as disclosed in Note 28. However, the population of contracts subject to balance sheet recognition and their initial measurement remains under evaluation. JPMorgan Chase Bank, N.A. does not expect material changes to the recognition of operating lease expense in its Consolidated statements of income.

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 (including held-to-maturity (“HTM”) securities), which will reflect management’s estimate of credit losses over the full remaining expected life of the financial assets. • Eliminates existing guidance for PCI loans, and requires recognition of an allowance for expected credit losses on financial assets purchased with more than insignificant credit deterioration since origination. • Amends existing impairment guidance for available-for-sale (“AFS”) securities to incorporate an allowance, which will allow for reversals of impairment losses 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.[b] • JPMorgan Chase Bank, N.A. has begun its implementation efforts by establishing a firmwide, cross-discipline governance structure. JPMorgan Chase Bank, N.A. is currently identifying key interpretive issues, and is assessing existing credit loss forecasting models and processes against the new guidance to determine what modifications may be required. • JPMorgan Chase Bank, N.A. expects that the new guidance will result in an increase in its allowance for credit losses due to several factors, including: 1. The allowance related to JPMorgan Chase Bank, N.A.’s loans and commitments will increase to cover credit losses over the full remaining expected life of the portfolio, and will consider expected future changes in macroeconomic conditions 2. The nonaccretable difference on PCI loans will be recognized as an allowance, offset by an increase in the carrying value of the related loans 3. An allowance will be established for estimated credit losses on HTM securities • The extent of the increase is under evaluation, but will depend upon the nature and characteristics of JPMorgan Chase Bank, N.A.’s portfolio at the adoption date, and the macroeconomic conditions and forecasts at that date.
Classification of certain cash receipts and cash payments in the statement of cash flows *Issued August 2016*	• Provides targeted amendments to the classification of certain cash flows, including treatment of cash payments for settlement of zero-coupon debt instruments and distributions received from equity method investments. • Requires retrospective application to all periods presented.	• Required effective date: January 1, 2018.[a] • JPMorgan Chase Bank, N.A. is currently evaluating the potential impact on the Consolidated Financial Statements.
Treatment of restricted cash on the statement of cash flows *Issued November 2016*	• Requires inclusion of restricted cash in the cash and cash equivalents balances in the Consolidated statements of cash flows. • Requires additional disclosures to supplement the Consolidated statements of cash flows. • Requires retrospective application to all periods presented.	• Required effective date: January 1, 2018.[a] • JPMorgan Chase Bank, N.A is currently evaluating the potential impact on the Consolidated Financial Statements.
Definition of a business *Issued January 2017*	• Narrows the definition of a business and clarifies that, to be considered a business, the fair value of the gross assets acquired (or disposed of) may not be substantially all concentrated in a single identifiable asset or a group of similar assets. • In addition, in order to be considered a business, a set of activities and assets must include, at a minimum, an input and a substantive process that together significantly contribute to the ability to create outputs.	• Required effective date: January 1, 2018.[a] • No material impact is expected because the guidance is to be applied prospectively, although it is anticipated that after adoption, fewer transactions will be treated as acquisitions or dispositions of a business.
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, JPMorgan Chase Bank, N.A. does not expect a material effect on the Consolidated Financial Statements. • After adoption, the guidance may result in more frequent goodwill impairment losses due to the removal of the second condition.

(a) Early adoption is permitted.
(b) Early adoption is permitted on January 1, 2019.

Note 3 – Business changes and developments

Internal transfers of legal entities under common control

From time to time there may be transfers of legal entities under common control between JPMorgan Chase Bank, N.A. and JPMorgan Chase. Such transfers are accounted for at historical cost in accordance with U.S. GAAP. However, all transfers were reflected in the Consolidated Financial Statements prospectively, and not as of the beginning of the applicable periods presented, because the impact of the transfers was not material to JPMorgan Chase Bank, N.A.'s Consolidated Financial Statements.

During the years ended December 31, 2016 and 2014, there were no significant transfers of legal entities.

On August 31, 2015, JPMorgan Chase merged its wholly-owned subsidiary, JPMorgan Bank and Trust Company, N.A. ("JPMBT"), into JPMorgan Chase Bank, N.A. JPMBT's principal activity was a borrowing relationship with the Federal Home Loan Bank of San Francisco ("FHLB SF"); and a custody business serving California insurance companies and other institutions. At the time of the merger, JPMBT had approximately $15.9 billion of assets, predominantly consisting of $9.9 billion of deposits with banks and $4.9 billion of loans; liabilities were $14.3 billion, consisting of long-term debt. There were no other significant transfers of legal entities for the year ended December 31, 2015.

Subsequent events

In preparing these Consolidated Financial Statements, JPMorgan Chase Bank, N.A. performed an evaluation of material events subsequent to December 31, 2016, and through February 28, 2017, the date these financial statements were available to be issued.

Note 4 – Fair value measurement

JPMorgan Chase Bank, N.A. carries a portion of its assets and liabilities at fair value. These assets and liabilities are predominantly carried at fair value on a recurring basis (i.e., assets and liabilities that are measured and reported at fair value on JPMorgan Chase Bank, N.A.'s Consolidated balance sheets). Certain assets (e.g., certain mortgage, home equity and other loans where the carrying value is based on the fair value of the underlying collateral), liabilities and unfunded lending-related commitments are measured at fair value on a nonrecurring basis; that is, they are not measured at fair value on an ongoing basis but are subject to fair value adjustments only in certain circumstances (for example, when there is evidence of impairment).

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. Fair value is based on quoted market prices or inputs, where available. If prices or quotes are not available, fair value is based on models that consider relevant transaction characteristics (such as maturity) and use as inputs observable or unobservable market parameters, including but not limited to yield curves, interest rates, volatilities, equity or debt prices, foreign exchange rates and credit curves. Valuation adjustments may be made to ensure that financial instruments are recorded at fair value, as described below.

The level of precision in estimating unobservable market inputs or other factors can affect the amount of gain or loss recorded for a particular position. Furthermore, while JPMorgan Chase Bank, N.A. 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 JPMorgan Chase Bank, N.A.'s businesses and portfolios.

JPMorgan Chase Bank, N.A. uses various methodologies and assumptions in the determination of fair value. The use of different methodologies or assumptions by other market participants compared with those used by JPMorgan Chase Bank, N.A. could result in a different estimate of fair value at the reporting date.

Valuation process

Risk-taking functions are responsible for providing fair value estimates for assets and liabilities carried on the Consolidated balance sheets at fair value. JPMorgan Chase's Valuation Control Group ("VCG"), which is part of JPMorgan Chase's Finance function and independent of the risk-taking functions, is responsible for verifying these estimates and determining any fair value adjustments that may be required to ensure that JPMorgan Chase Bank, N.A.'s positions are recorded at fair value. The Valuation Governance Forum ("VGF") is composed of senior finance and risk executives and is responsible for overseeing the management of risks arising from valuation activities conducted across JPMorgan Chase. The VGF is chaired by the Firmwide head of the VCG (under the direction of JPMorgan Chase's Controller), and includes sub-forums covering the corporate & investment banking business, the consumer & community banking business, commercial banking business, asset & wealth management business and certain corporate functions including Treasury and Chief Investment Office ("CIO").

Price verification process

The VCG verifies fair value estimates provided by the risk-taking functions by leveraging independently derived prices, valuation inputs and other market data, where available. Where independent prices or inputs are not available, the VCG performs additional review to ensure the reasonableness of the estimates. The additional review may include evaluating the limited market activity including client unwinds, benchmarking valuation inputs to those used for similar instruments, decomposing the valuation of structured instruments into individual components, comparing expected to actual cash flows, reviewing profit and loss trends, and reviewing trends in collateral valuation. There are also additional levels of management review for more significant or complex positions.

The VCG determines any valuation adjustments that may be required to the estimates provided by the risk-taking functions. No adjustments are applied for instruments classified within level 1 of the fair value hierarchy (see below for further information on the fair value hierarchy). For other positions, judgment is required to assess the need for valuation adjustments to appropriately reflect liquidity considerations, unobservable parameters, and, for certain portfolios that meet specified criteria, the size of the net open risk position. The determination of such adjustments follows a consistent framework across JPMorgan Chase Bank, N.A.:

- Liquidity valuation adjustments are considered where an observable external price or valuation parameter exists but is of lower reliability, potentially due to lower market activity. Liquidity valuation adjustments are applied and determined based on current market conditions. Factors that may be considered in determining the liquidity adjustment include analysis of: (1) the estimated bid-offer spread for the instrument being traded; (2) alternative pricing points for similar instruments in active markets; and (3) the range of reasonable values that the price or parameter could take.
- JPMorgan Chase Bank, N.A. manages certain portfolios of financial instruments on the basis of net open risk exposure and, as permitted by U.S. GAAP, has elected to estimate the fair value of such portfolios on the basis of a transfer of the entire net open risk position in an orderly transaction. Where this is the case, valuation adjustments may be necessary to reflect the cost of exiting a larger-than-normal market-size net open risk position. Where applied, such adjustments are based on factors that a relevant market participant would consider in the transfer of the net open risk position, including the size of the adverse market move that is likely to occur during the period required to reduce the net open risk position to a normal market-size.
- Unobservable parameter valuation adjustments may be made when positions are valued using prices or input parameters to valuation models that are unobservable due to a lack of market activity or because they cannot be implied from observable market data. Such prices or parameters must be estimated and are, therefore, subject to management judgment. Unobservable parameter valuation adjustments are applied to reflect the uncertainty inherent in the resulting valuation estimate.
- Where appropriate, JPMorgan Chase Bank, N.A. also applies adjustments to its estimates of fair value in order to appropriately reflect counterparty credit quality (CVA), JPMorgan Chase Bank, N.A.'s own creditworthiness (DVA) and the impact of funding (FVA), using a consistent framework across JPMorgan Chase Bank, N.A.

Valuation model review and approval

If prices or quotes are not available for an instrument or a similar instrument, fair value is generally determined using valuation models that consider relevant transaction data such as maturity and use as inputs market-based or independently sourced parameters. Where this is the case the price verification process described above is applied to the inputs to those models.

The Model Risk function reviews and approves a wide range of models, including risk management, valuation, and regulatory capital models used by JPMorgan Chase. The Model Risk function is independent of model users and developers. The Firmwide Model Risk Executive reports to JPMorgan Chase's Chief Risk Officer ("CRO"). When reviewing a model, the Model Risk function analyzes and challenges the model methodology, and the reasonableness of model assumptions and may perform or require additional testing, including back-testing of model outcomes.

The Model Risk function reviews and approves new models, as well as material changes to existing models, prior to implementation in the operating environment. In certain circumstances, the head of the Model Risk function may grant exceptions to JPMorgan Chase's model risk policy to allow a model to be used prior to review or approval. The Model Risk function may also require the user to take appropriate actions to mitigate the model risk if it is to be used in the interim.

Valuation hierarchy

A three-level valuation hierarchy has been established under U.S. GAAP for disclosure of fair value measurements. The valuation hierarchy is based on the transparency of inputs to the valuation of an asset or liability as of the measurement date. The three levels are defined as follows.

- Level 1 – inputs to the valuation methodology are quoted prices (unadjusted) for identical assets or liabilities in active markets.
- Level 2 – inputs to the valuation methodology include quoted prices for similar assets and liabilities in active markets, and inputs that are observable for the asset or liability, either directly or indirectly, for substantially the full term of the financial instrument.
- Level 3 – one or more inputs to the valuation methodology are unobservable and significant to the fair value measurement.

A financial instrument's categorization within the valuation hierarchy is based on the lowest level of input that is significant to the fair value measurement.

The following table describes the valuation methodologies generally used by JPMorgan Chase Bank, N.A. to measure its significant products/instruments at fair value, including the general classification of such instruments pursuant to the valuation hierarchy.

Product/instrument	Valuation methodology	Classifications in the valuation hierarchy
Securities financing agreements	Valuations are based on discounted cash flows, which consider: • Derivative features: for further information refer to the discussion of derivatives below. • Market rates for the respective maturity • Collateral	Predominantly level 2
Loans and lending-related commitments – wholesale		
Loans carried at fair value (e.g. trading loans and non-trading loans)	Where observable market data is available, valuations are based on: • Observed market prices (circumstances are infrequent) • Relevant broker quotes • Observed market prices for similar instruments Where observable market data is unavailable or limited, valuations are based on discounted cash flows, which consider the following: • Credit spreads derived from the cost of credit default swaps ("CDS"); or benchmark credit curves developed by JPMorgan Chase Bank, N.A., by industry and credit rating • Prepayment speed	Level 2 or 3
Loans held for investment and associated lending related commitments	Valuations are based on discounted cash flows, which consider: • Credit spreads, derived from the cost of CDS; or benchmark credit curves developed by JPMorgan Chase Bank, N.A., by industry and credit rating • Prepayment speed Lending-related commitments are valued similar to loans and reflect the portion of an unused commitment expected, based on JPMorgan Chase Bank, N.A.'s average portfolio historical experience, to become funded prior to an obligor default For information regarding the valuation of loans measured at collateral value, see Note 15.	Predominantly level 3
Loans – consumer		
Held for investment consumer loans, excluding credit card	Valuations are based on discounted cash flows, which consider: • Credit losses – which consider expected and current default rates, and loss severity • Prepayment speed • Discount rates • Servicing costs For information regarding the valuation of loans measured at collateral value, see Note 15.	Predominantly level 3
Held for investment credit card receivables	Valuations are based on discounted cash flows, which consider: • Credit costs - the allowance for loan losses is considered a reasonable proxy for the credit cost • Projected interest income, late fee revenue and loan repayment rates • Discount rates • Servicing costs	Level 3
Trading loans – conforming residential mortgage loans expected to be sold	Fair value is based on observable prices for mortgage-backed securities ("MBS") with similar collateral and incorporates adjustments to these prices to account for differences between the securities and the value of the underlying loans, which include credit characteristics, portfolio composition, and liquidity.	Predominantly level 2

Product/instrument	Valuation methodology, inputs and assumptions	Classifications in the valuation hierarchy
Investment and trading securities	Quoted market prices are used where available.	Level 1
	In the absence of quoted market prices, securities are valued based on: • Observable market prices for similar securities • Relevant broker quotes • Discounted cash flows In addition, the following inputs to discounted cash flows are used for the following products: *Mortgage- and asset-backed securities ("ABS") specific inputs:* • Collateral characteristics • Deal-specific payment and loss allocations • Current market assumptions related to yield, prepayment speed, conditional default rates and loss severity *Collateralized loan obligations ("CLOs"), specific inputs:* • Collateral characteristics • Deal-specific payment and loss allocations • Expected prepayment speed, conditional default rates, loss severity • Credit spreads • Credit rating data	Level 2 or 3
Physical commodities	Valued using observable market prices or data	Predominantly Level 1 and 2
Derivatives	Exchange-traded derivatives that are actively traded and valued using the exchange price.	Level 1
	Derivatives that are valued using models such as the Black-Scholes option pricing model, simulation models, or a combination of models, that use observable or unobservable valuation inputs (e.g. plain vanilla options and interest rate and credit default swaps). Inputs include: • Contractual terms including the period to maturity • Readily observable parameters including interest rates and volatility • Credit quality of the counterparty and of JPMorgan Chase Bank, N.A. • Market funding levels • Correlation levels In addition, specific inputs used for derivatives that are valued based on models with significant unobservable inputs are as follows: *Structured credit derivatives specific inputs include:* • CDS spreads and recovery rates • Credit correlation between the underlying debt instruments (levels are modeled on a transaction basis and calibrated to liquid benchmark tranche indices) • Actual transactions, where available, are used to regularly recalibrate unobservable parameters *Certain long-dated equity option specific inputs include:* • Long-dated equity volatilities *Certain interest rate and foreign exchange ("FX") exotic options specific inputs include:* • Interest rate correlation • Interest rate spread volatility • Foreign exchange correlation • Correlation between interest rates and foreign exchange rates • Parameters describing the evolution of underlying interest rates *Certain commodity derivatives specific inputs include:* • Commodity volatility • Forward commodity price Additionally, adjustments are made to reflect counterparty credit quality (credit valuation adjustments or (CVA), JPMorgan Chase Bank, N.A.'s own creditworthiness (debit valuation adjustments or DVA), and funding valuation adjustment (FVA) to incorporate the impact of funding.	Level 2 or 3

Product/instrument	Valuation methodology, inputs and assumptions	Classification in the valuation hierarchy
Mortgage servicing rights ("MSRs")	See Mortgage servicing rights in Note 18.	Level 3
Fund investments (e.g. mutual/ collective investment funds, private equity funds, hedge funds, and real estate funds)	Net asset value ("NAV")	
	• NAV is supported by the ability to redeem and purchase at the NAV level.	Level 1
	• Adjustments to the NAV as required, for restrictions on redemption (e.g., lock-up periods or withdrawal limitations) or where observable activity is limited	Level 2 or 3[(a)]
Beneficial interests issued by consolidated VIEs	Valued using observable market information, where available In the absence of observable market information, valuations are based on the fair value of the underlying assets held by the VIE	Level 2 or 3
Long-term debt, not carried at fair value	Valuations are based on discounted cash flows, which consider: • Market rates for respective maturity	Predominantly level 2
Structured notes (included in deposits, other borrowed funds and long-term debt)	• Valuations are based on discounted cash flow analyses that consider the embedded derivative and the terms and payment structure of the note. • The embedded derivative features are considered using models such as the Black-Scholes option pricing model, simulation models, or a combination of models that use observable or unobservable valuation inputs, depending on the embedded derivative. The specific inputs used vary according to the nature of the embedded derivative features, as described in the discussion above regarding derivatives valuation. Adjustments are then made to this base valuation to reflect JPMorgan Chase Bank, N.A.'s own creditworthiness (DVA) and to incorporate the impact of funding (FVA).	Level 2 or 3

(a) Excludes certain investments that are measured at fair value using the net asset value per share (or its equivalent) as a practical expedient.

The following table presents the assets and liabilities reported at fair value as of December 31, 2016 and 2015 by major product category and fair value hierarchy.

Assets and liabilities measured at fair value on a recurring basis

	Fair value hierarchy				
December 31, 2016 (in millions)	Level 1	Level 2	Level 3	Derivative netting adjustments	Total fair value
Federal funds sold and securities purchased under resale agreements	$ —	$ 5,349	$ —	$ —	$ 5,349
Securities borrowed	—	—	—	—	—
Trading assets:					
Debt instruments:					
Mortgage-backed securities:					
U.S. government agencies[a]	—	74	369	—	443
Residential – nonagency	—	818	11	—	829
Commercial – nonagency	—	89	6	—	95
Total mortgage-backed securities	—	981	386	—	1,367
U.S. Treasury and government agencies[a]	13,516	52	—	—	13,568
Obligations of U.S. states and municipalities	—	3,897	19	—	3,916
Certificates of deposit, bankers' acceptances and commercial paper	—	245	—	—	245
Non-U.S. government debt securities	28,443	22,994	46	—	51,483
Corporate debt securities	—	14,158	318	—	14,476
Loans	—	28,758	4,325	—	33,083
Asset-backed securities	—	696	70	—	766
Total debt instruments	41,959	71,781	5,164	—	118,904
Equity securities	51,480	19	89	—	51,588
Physical commodities[b]	1,102	—	—	—	1,102
Other	—	9,486	281	—	9,767
Total debt and equity instruments[c]	94,541	81,286	5,534	—	181,361
Derivative receivables:					
Interest rate	289	607,393	2,658	(582,320)	28,020
Credit	—	27,759	1,390	(27,916)	1,233
Foreign exchange	816	233,854	928	(212,279)	23,319
Equity	—	47,816	3,089	(45,879)	5,026
Commodity	158	34,774	358	(28,970)	6,320
Total derivative receivables[d]	1,263	951,596	8,423	(897,364)	63,918
Total trading assets	95,804	1,032,882	13,957	(897,364)	245,279
Available-for-sale securities:					
Mortgage-backed securities:					
U.S. government agencies[a]	—	64,005	—	—	64,005
Residential – nonagency	—	14,442	1	—	14,443
Commercial – nonagency	—	8,691	—	—	8,691
Total mortgage-backed securities	—	87,138	1	—	87,139
U.S. Treasury and government agencies[a]	44,072	29	—	—	44,101
Obligations of U.S. states and municipalities	—	28,897	—	—	28,897
Certificates of deposit	—	106	—	—	106
Non-U.S. government debt securities	22,793	12,495	—	—	35,288
Corporate debt securities	—	4,958	—	—	4,958
Asset-backed securities:					
Collateralized loan obligations	—	26,738	663	—	27,401
Other	—	6,926	—	—	6,926
Equity securities	54	—	—	—	54
Total available-for-sale securities	66,919	167,287	664	—	234,870
Loans	—	1,660	568	—	2,228
Mortgage servicing rights	—	—	6,096	—	6,096
Other assets[e]	—	—	41	—	41
Total assets measured at fair value on a recurring basis	$ 162,723	$ 1,207,178 [e]	$ 21,326 [e]	$ (897,364)	$ 493,863
Deposits	$ —	$ 11,844	$ 2,121	$ —	$ 13,965
Federal funds purchased and securities loaned or sold under repurchase agreements	—	399	—	—	399
Other borrowed funds	—	4,552	1,019	—	5,571
Trading liabilities:					
Debt and equity instruments[c]	50,393	12,636	36	—	63,065
Derivative payables:					
Interest rate	184	575,305	1,657	(566,601)	10,545
Credit	—	27,042	1,294	(27,038)	1,298
Foreign exchange	932	232,508	2,459	(215,433)	20,466
Equity	—	50,262	4,577	(46,307)	8,532
Commodity	173	34,773	323	(27,475)	7,794
Total derivative payables[d]	1,289	919,890	10,310	(882,854)	48,635
Total trading liabilities	51,682	932,526	10,346	(882,854)	111,700
Accounts payable and other liabilities	7,494	—	—	—	7,494
Long-term debt	—	7,274	7,662	—	14,936
Total liabilities measured at fair value on a recurring basis	$ 59,176	$ 956,595	$ 21,148	$ (882,854)	$ 154,065

	Fair value hierarchy				
December 31, 2015 (in millions)	Level 1	Level 2	Level 3	Derivative netting adjustments	Total fair value
Federal funds sold and securities purchased under resale agreements	$ –	$ 7,970	$ –	$ –	$ 7,970
Securities borrowed	–	395	–	–	395
Trading assets:					
Debt instruments:					
Mortgage-backed securities:					
U.S. government agencies[a]	–	–	664	–	664
Residential – nonagency	–	733	19	–	752
Commercial – nonagency	–	222	6	–	228
Total mortgage-backed securities	–	955	689	–	1,644
U.S. Treasury and government agencies[a]	12,684 [f]	10	–	–	12,694 [f]
Obligations of U.S. states and municipalities	–	3,855	26	–	3,881
Certificates of deposit, bankers' acceptances and commercial paper	–	175	–	–	175
Non-U.S. government debt securities	27,974	24,988	74	–	53,036
Corporate debt securities	–	15,464	482	–	15,946
Loans	–	21,813	5,364	–	27,177
Asset-backed securities	–	445	78	–	523
Total debt instruments	40,658	67,705	6,713	–	115,076
Equity securities	55,722 [f]	45	88	–	55,855 [f]
Physical commodities[b]	449	–	–	–	449
Other	–	11,268	342	–	11,610
Total debt and equity instruments[c]	96,829	79,018	7,143	–	182,990
Derivative receivables:					
Interest rate	250	676,849	2,767	(652,767)	27,099
Credit	–	48,965	2,618	(50,159)	1,424
Foreign exchange	691	178,551	1,616	(163,421)	17,437
Equity	–	52,695	999	(47,938)	5,756
Commodity	108	40,588	32	(32,948)	7,780
Total derivative receivables[d]	1,049	997,648	8,032	(947,233)	59,496
Total trading assets	97,878	1,076,666	15,175	(947,233)	242,486
Available-for-sale securities:					
Mortgage-backed securities:					
U.S. government agencies[a]	–	55,066	–	–	55,066
Residential – nonagency	–	27,618	1	–	27,619
Commercial – nonagency	–	22,316	–	–	22,316
Total mortgage-backed securities	–	105,000	1	–	105,001
U.S. Treasury and government agencies[a]	10,998	38	–	–	11,036
Obligations of U.S. states and municipalities	–	30,405	–	–	30,405
Certificates of deposit	–	283	–	–	283
Non-U.S. government debt securities	23,187	13,477	–	–	36,664
Corporate debt securities	–	12,436	–	–	12,436
Asset-backed securities:					
Collateralized loan obligations	–	30,248	759	–	31,007
Other	–	9,034	20	–	9,054
Equity securities	69	–	–	–	69
Total available-for-sale securities	34,254	200,921	780	–	235,955
Loans	–	1,344	1,408	–	2,752
Mortgage servicing rights	–	–	6,608	–	6,608
Other assets[e]	3	28	5,670	–	5,701
Total assets measured at fair value on a recurring basis	$ 132,135	$ 1,287,324	$ 29,641	$ (947,233)	$ 501,867
Deposits	$ –	$ 9,877	$ 2,970	$ –	$ 12,847
Federal funds purchased and securities loaned or sold under repurchase agreements	–	728	–	–	728
Other borrowed funds	–	6,044	636	–	6,680
Trading liabilities:					
Debt and equity instruments[c]	34,609	13,612	48	–	48,269
Derivative payables:					
Interest rate	112	644,034	2,162	(634,494)	11,814
Credit	–	48,789	2,083	(49,102)	1,770
Foreign exchange	638	189,005	2,514	(171,836)	20,321
Equity	–	53,569	2,222	(47,092)	8,699
Commodity	52	41,095	1,356	(32,323)	10,180
Total derivative payables[d]	802	976,492	10,337	(934,847)	52,784
Total trading liabilities	35,411	990,104	10,385	(934,847)	101,053
Accounts payable and other liabilities	6,652	–	–	–	6,652
Long-term debt	–	7,946	6,783	–	14,729
Total liabilities measured at fair value on a recurring basis	$ 42,063	$ 1,014,699	$ 20,774	$ (934,847)	$ 142,689

(a) At December 31, 2016 and 2015, included total U.S. government-sponsored enterprise obligations of $46.3 billion and $43.0 billion, respectively, which were predominantly mortgage-related.

(b) Physical commodities inventories are generally accounted for at the lower of cost or market. "Market" is a term defined in U.S. GAAP as not exceeding fair value less costs to sell ("transaction costs"). Transaction costs for JPMorgan Chase Bank, N.A.'s physical commodities inventories are either not applicable or immaterial to the value of the inventory. Therefore, market approximates fair value for JPMorgan Chase Bank, N.A.'s physical commodities inventories. When fair value hedging has been applied (or when market 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. For a further discussion of JPMorgan Chase Bank, N.A.'s hedge accounting relationships, see Note 7. To provide consistent fair value disclosure information, all physical commodities inventories have been included in each period presented.

(c) Balances reflect the reduction of securities owned (long positions) by the amount of identical securities sold but not yet purchased (short positions).
(d) As permitted under U.S. GAAP, JPMorgan Chase Bank, N.A. 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. For purposes of the tables above, JPMorgan Chase Bank, N.A. does not reduce derivative receivables and derivative payables balances for this netting adjustment, either within or across the levels of the fair value hierarchy, as such netting is not relevant to a presentation based on the transparency of inputs to the valuation of an asset or liability. The level 3 balances would be reduced if netting were applied, including the netting benefit associated with cash collateral. Additionally, includes derivative receivables and payables with affiliates on a net basis. See Note 22 for information regarding our derivative activities with affiliates.
(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 December 31, 2016 and 2015, the fair values of these investments, which include certain hedge funds, private equity funds, real estate and other funds, were $50 million and $49 million, respectively.
(f) Prior period amounts have been revised to conform with the current period presentation.

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

For the year ended December 31, 2016, 2015, and 2014 there were no significant transfers between levels 1 and 2.

During the year ended December 31, 2016, transfers from level 3 to level 2 included the following:

- $1.3 billion of equity derivative receivables as a result of an increase in observability and a decrease in the significance in unobservable inputs.
- $1.0 billion of long-term debt driven by an increase in observability and a reduction of the significance in the unobservable inputs for certain structured notes.

During the year ended December 31, 2016, transfers from level 2 to level 3 included the following:

- $1.7 billion of gross equity derivative receivables and $1.9 billion of gross equity derivative payables as a result of a decrease in observability and an increase in the significance in unobservable inputs.
- $1.0 billion of trading loans driven by a decrease in observability.

During the year ended December 31, 2015, transfers from level 3 to level 2 and from level 2 to level 3 included the following:

- $3.5 billion of long-term debt and $1.0 billion of deposits driven by an increase in observability on certain structured notes with embedded interest rate and FX derivatives and a reduction of the significance in the unobservable inputs of certain structured notes with embedded equity derivatives
- $4.4 billion of gross equity derivative receivables and $3.6 billion of equity derivative payables as a result of an increase in observability and a decrease in the significance in unobservable inputs, partially offset by transfers into level 3 resulting in net transfers of $2.7 billion and $2.3 billion respectively; $1.5 billion of foreign exchange derivative receivables as a result of an increase in observability of certain valuation input
- $2.6 billion of trading loans driven by an increase in observability of certain collateralized financing transactions; and $2.3 billion of corporate debt driven by a reduction of the significance in the unobservable inputs and an increase in observability for certain structured products

During the year ended December 31, 2014, transfers from level 3 to level 2 included the following:

- $4.3 billion and $4.4 billion of gross equity derivative receivables and payables, respectively, due to increased observability of certain equity option valuation inputs
- $2.6 billion of trading loans, $2.6 billion of margin loans and $2.0 billion of corporate debt, based on increased liquidity and price transparency

  Transfers from level 2 into level 3 included $1.1 billion of other borrowed funds and $1.1 billion of trading loans, based on a decrease in observability of valuation inputs and price transparency.

All transfers are assumed to occur at the beginning of the interim reporting period in which they occur.

Level 3 valuations

JPMorgan Chase Bank, N.A. has established well-structured processes for determining fair value, including for instruments where fair value is estimated using significant unobservable inputs (level 3). For further information on JPMorgan Chase Bank, N.A.'s valuation process and a detailed discussion of the determination of fair value for individual financial instruments, see pages 20–24 of this Note.

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 JPMorgan Chase Bank, N.A. For instruments valued using internally developed models that use significant unobservable inputs and are therefore classified within level 3 of the fair value 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 model to use. Second, due to the lack of observability of significant inputs, management must assess all relevant empirical data in deriving valuation inputs including, but not limited to, transaction details, yield curves, interest rates, prepayment speed, default rates, volatilities, correlations, equity or debt prices, valuations of comparable instruments, foreign exchange rates and credit curves.

The following table presents JPMorgan Chase Bank, N.A.'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, JPMorgan Chase Bank, N.A. 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 JPMorgan Chase Bank, N.A.'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 JPMorgan Chase Bank, N.A.'s estimates and assumptions. Rather, they reflect the characteristics of the various instruments held by JPMorgan Chase Bank, N.A. 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 JPMorgan Chase Bank, N.A. at each balance sheet date.

For JPMorgan Chase Bank, N.A.'s derivatives and structured notes positions classified within level 3 at December 31, 2016, interest rate correlation inputs used in estimating fair value were concentrated towards the upper end of the range presented; equity correlation inputs were concentrated at the upper end of the range; the credit correlation inputs were distributed across the range presented; and the foreign exchange correlation inputs were concentrated at the upper end of the range presented. In addition, the interest rate volatility inputs used in estimating fair value were distributed across the range presented; equity volatilities were concentrated in the lower half end of the range; and forward commodity prices used in estimating the fair value of commodity derivatives were concentrated in the middle of the range presented.

Level 3 inputs[(a)]					
December 31, 2016 (in millions, except for ratios and basis points)					
Product/Instrument	**Fair value**	**Principal valuation technique**	**Unobservable inputs**	**Range of input values**	**Weighted average**
Residential mortgage-backed securities and loans	$ 2,541	Discounted cash flows	Yield	5 % - 18%	5%
			Prepayment speed	0 % - 20%	8%
			Conditional default rate	0 % - 4%	1%
			Loss severity	0 % - 8%	1%
Commercial mortgage-backed securities and loans[(b)]	1,539	Discounted cash flows	Yield	1 % - 32%	8%
			Conditional default rate	0 % - 100%	71%
			Loss severity	40%	40%
Corporate debt securities, obligations of U.S. states and municipalities, and other[(c)]	410	Discounted cash flows	Credit spread	40 bps 375 bps	99 bps
			Yield	5 % - 17%	10%
	1,608	Market comparables	Price	$0 - $121	$89
Net interest rate derivatives	1,001	Option pricing	Interest rate correlation	(30)% - 100%	
			Interest rate spread volatility	3 % - 38%	
Net credit derivatives[(b)(c)]	96	Discounted cash flows	Credit correlation	30 % - 85%	
Net foreign exchange derivatives	(1,531)	Option pricing	Foreign exchange correlation	(30)% - 65%	
Net equity derivatives	(1,488)	Option pricing	Equity volatility	20 % - 60%	
Net commodity derivatives	35	Discounted cash flows	Forward commodity price	$46 - $ 59 per barrel	
Collateralized loan obligations	663	Discounted cash flows	Credit spread	303 bps - 475 bps	339
			Prepayment speed	20%	20%
			Conditional default rate	2%	2%
			Loss severity	30%	30%
	46	Market comparables	Price	$0 - $100	$80
MSRs	6,096	Discounted cash flows	Refer to Note 18.		
Long-term debt, other borrowed funds, and deposits[(d)]	10,326	Option pricing	Interest rate correlation	(30)% - 100%	
			Interest rate spread volatility	3 % - 38%	
			Foreign exchange correlation	(30)% - 65%	
			Equity correlation	(50)% - 80%	
	476	Discounted cash flows	Credit correlation	30 % - 85%	

(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) The unobservable inputs and associated input ranges for approximately $394 million of credit derivative receivables and $226 million of credit derivative payables with underlying commercial mortgage risk have been included in the inputs and ranges provided for commercial mortgage-backed securities and loans.

(c) The unobservable inputs and associated input ranges for approximately $362 million of credit derivative receivables and $333 million of credit derivative payables with underlying ABS risk have been included in the inputs and ranges provided for corporate debt securities, obligations of U.S. states and municipalities and other.

(d) Long-term debt, other borrowed funds and deposits include structured notes issued by JPMorgan Chase Bank, N.A. that are predominantly financial instruments containing 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.

Changes in and ranges of unobservable inputs

The following discussion provides a description of the impact on a fair value measurement of a change in each unobservable input in isolation, and the interrelationship between unobservable inputs, where relevant and significant. The impact of changes in inputs may not be independent, as a change in one unobservable input may give rise to a change in another unobservable input. Where relationships do exist between two unobservable inputs, those relationships are discussed below. Relationships may also exist between observable and unobservable inputs (for example, as observable interest rates rise, unobservable prepayment rates decline); such relationships have not been included in the discussion below. In addition, for each of the individual relationships described below, the inverse relationship would also generally apply.

The following discussion also provides a description of attributes of the underlying instruments and external market factors that affect the range of inputs used in the valuation of JPMorgan Chase Bank, N.A.'s positions.

Yield – The yield of an asset is the interest rate used to discount future cash flows in a discounted cash flow calculation. An increase in the yield, in isolation, would result in a decrease in a fair value measurement.

Credit spread – The credit spread is the amount of additional annualized return over the market interest rate that a market participant would demand for taking exposure to the credit risk of an instrument. The credit spread for an instrument forms part of the discount rate used in a discounted cash flow calculation. Generally, an increase in the credit spread would result in a decrease in a fair value measurement.

The yield and the credit spread of a particular mortgage-backed security primarily reflect the risk inherent in the instrument. The yield is also impacted by the absolute level of the coupon paid by the instrument (which may not correspond directly to the level of inherent risk). Therefore, the range of yield and credit spreads reflects the range of risk inherent in various instruments owned by JPMorgan Chase Bank, N.A. The risk inherent in mortgage-backed securities is driven by the subordination of the security being valued and the characteristics of the underlying mortgages within the collateralized pool, including borrower FICO scores, loan-to-value ("LTV") ratios for residential mortgages and the nature of the property and/or any tenants for commercial mortgages. For corporate debt securities, obligations of U.S. states and municipalities and other similar instruments, credit spreads reflect the credit quality of the obligor and the tenor of the obligation.

Prepayment speed – The prepayment speed is a measure of the voluntary unscheduled principal repayments of a prepayable obligation in a collateralized pool. Prepayment speeds generally decline as borrower delinquencies rise. An increase in prepayment speeds, in isolation, would result in a decrease in a fair value measurement of assets valued at a premium to par and an increase in a fair value measurement of assets valued at a discount to par.

Prepayment speeds may vary from collateral pool to collateral pool, and are driven by the type and location of the underlying borrower, and the remaining tenor of the obligation as well as the level and type (e.g., fixed or floating) of interest rate being paid by the borrower. Typically collateral pools with higher borrower credit quality have a higher prepayment rate than those with lower borrower credit quality, all other factors being equal.

Conditional default rate – The conditional default rate is a measure of the reduction in the outstanding collateral balance underlying a collateralized obligation as a result of defaults. While there is typically no direct relationship between conditional default rates and prepayment speeds, collateralized obligations for which the underlying collateral has high prepayment speeds will tend to have lower conditional default rates. An increase in conditional default rates would generally be accompanied by an increase in loss severity and an increase in credit spreads. An increase in the conditional default rate, in isolation, would result in a decrease in a fair value measurement. Conditional default rates reflect the quality of the collateral underlying a securitization and the structure of the securitization itself. Based on the types of securities owned in JPMorgan Chase Bank, N.A.'s market-making portfolios, conditional default rates are most typically at the lower end of the range presented.

Loss severity – The loss severity (the inverse concept is the recovery rate) is the expected amount of future realized losses resulting from the ultimate liquidation of a particular loan, expressed as the net amount of loss relative to the outstanding loan balance. An increase in loss severity is generally accompanied by an increase in conditional default rates. An increase in the loss severity, in isolation, would result in a decrease in a fair value measurement.

The loss severity applied in valuing a mortgage-backed security investment depends on factors relating to the underlying mortgages, including the LTV ratio, the nature of the lender's lien on the property and other instrument-specific factors.

Correlation – Correlation is a measure of the relationship between the movements of two variables (e.g., how the change in one variable influences the change in the other). Correlation is a pricing input for a derivative product where the payoff is driven by one or more underlying risks. Correlation inputs are related to the type of derivative (e.g., interest rate, credit, equity, foreign exchange and commodity) due to the nature of the underlying risks. When parameters are positively correlated, an increase in one parameter will result in an increase in the other parameter. When parameters are negatively correlated, an increase in one parameter will result in a decrease in the other parameter. An increase in correlation can result in an increase or a decrease in a fair value measurement. Given a short correlation position, an increase in correlation, in isolation, would generally result in a decrease in a fair value measurement. The range of correlation inputs between risks within the same asset class are generally narrower than those between underlying risks across asset classes. In addition, the ranges of credit correlation inputs tend to be narrower than those affecting other asset classes.

The level of correlation used in the valuation of derivatives with multiple underlying risks depends on a number of factors including the nature of those risks. For example, the correlation between two credit risk exposures would be different than that between two interest rate risk exposures. Similarly, the tenor of the transaction may also impact the correlation input, as the relationship between the underlying risks may be different over different time periods. Furthermore, correlation levels are very much dependent on market conditions and could have a relatively wide range of levels within or across asset classes over time, particularly in volatile market conditions.

Volatility – Volatility is a measure of the variability in possible returns for an instrument, parameter or market index given how much the particular instrument, parameter or index changes in value over time. Volatility is a pricing input for options, including equity options, commodity options, and interest rate options. Generally, the higher the volatility of the underlying, the riskier the instrument. Given a long position in an option, an increase in volatility, in isolation, would generally result in an increase in a fair value measurement.

The level of volatility used in the valuation of a particular option-based derivative depends on a number of factors, including the nature of the risk underlying the option (e.g., the volatility of a particular equity security may be significantly different from that of a particular commodity index), the tenor of the derivative as well as the strike price of the option.

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 JPMorgan Chase Bank, N.A. within level 3 of the fair value hierarchy for the years ended December 31, 2016, 2015 and 2014. When a determination is made to classify a financial instrument within level 3, the determination is based on the significance of the unobservable parameters 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, JPMorgan Chase Bank, N.A. 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 JPMorgan Chase Bank, N.A.'s risk management activities related to such level 3 instruments.

Year ended December 31, 2016 (in millions)	Fair value measurements using significant unobservable inputs								
	Fair value at January 1, 2016	Total realized/ unrealized gains/ (losses)	Purchases[g]	Sales	Issuances	Settlements[h]	Transfers into and/or out of level 3[i]	Fair value at Dec. 31, 2016	Change in unrealized gains/ (losses) related to financial instruments held at Dec. 31, 2016
Assets:									
Trading assets:									
Debt instruments:									
Mortgage-backed securities:									
U.S. government agencies	$ 664	$ (20)	$ 78	$ (246)		$ (107)	$ –	$ 369	$ (36)
Residential – nonagency	19	(4)	6	(6)		(3)	(1)	11	(3)
Commercial – nonagency	6	(1)	2	(1)		–	–	6	1
Total mortgage-backed securities	689	(25)	86	(253)		(110)	(1)	386	(38)
Obligations of U.S. states and municipalities	26	–	–	–		(7)	–	19	–
Non-U.S. government debt securities	74	2	108	(125)		(2)	(11)	46	(7)
Corporate debt securities	482	(28)	457	(342)		(177)	(74)	318	(21)
Loans	5,364	(351)	2,101	(1,949)		(1,074)	234	4,325	(184)
Asset-backed securities	78	20	297	(262)		(52)	(11)	70	7
Total debt instruments	6,713	(382)	3,049	(2,931)		(1,422)	137	5,164	(243)
Equity securities	88	–	30	(37)		(2)	10	89	(3)
Other	342	212	610	(392)		(413)	(78)	281	30
Total trading assets – debt and equity instruments	7,143	(170) (c)	3,689	(3,360)		(1,837)	69	5,534	(216) (c)
Net derivative receivables:[a]									
Interest rate	605	771	319	(183)		(722)	211	1,001	(292)
Credit	535	(737)	5	(4)		231	66	96	7
Foreign exchange	(898)	87	64	(124)		(649)	(11)	(1,531)	(356)
Equity	(1,223)	(261)	2,720	(2,370)		(12)	(342)	(1,488)	(114)
Commodity	(1,324)	767	6	–		604	(18)	35	464
Total net derivative receivables	(2,305)	627 (c)	3,114	(2,681)		(548)	(94)	(1,887)	(291) (c)
Available-for-sale securities:									
Asset-backed securities	779	2	–	–		(118)	–	663	2
Other	1	–	–	–		–	–	1	–
Total available-for-sale securities	780	2 (d)	–	–		(118)	–	664	2 (d)
Loans	1,408	(48) (c)	259	–		(738)	(313)	568	(42) (c)
Mortgage servicing rights	6,608	(163) (e)	679	(109)		(919)	–	6,096	(163) (e)
Other assets	5,670	(13) (f)	30	(3,331)		(2,316)	1	41	(2) (f)

Year ended December 31, 2016 (in millions)	Fair value measurements using significant unobservable inputs								
	Fair value at January 1, 2016	Total realized/ unrealized (gains)/ losses	Purchases[g]	Sales	Issuances	Settlements[h]	Transfers into and/or out of level 3[i]	Fair value at Dec. 31, 2016	Change in unrealized (gains)/losses related to financial instruments held at Dec. 31, 2016
Liabilities:[b]									
Deposits	$ 2,970	$ (11) (c)	$ 1	$ –	$ 1,354	$ (1,289)	$ (904)	$ 2,121	$ (178) (c)
Other borrowed funds	636	(232) (c)	–	–	1,712	(1,156)	59	1,019	(57) (c)
Trading liabilities – debt and equity instruments	48	(22) (c)	(1)	24	–	(10)	(3)	36	(1) (c)
Beneficial interests issued by consolidated VIEs	–	(11) (c)	–	–	157	(146)	–	–	– (c)
Long-term debt	6,783	86 (c)	–	–	5,061	(3,658)	(610)	7,662	309 (c)

Year ended December 31, 2015 (in millions)	Fair value measurements using significant unobservable inputs							Change in unrealized gains/(losses) related to financial instruments held at Dec. 31, 2015
	Fair value at January 1, 2015	Total realized/ unrealized gains/ (losses)	Purchases[g]	Sales	Settlements[h]	Transfers into and/or out of level 3[i]	Fair value at Dec. 31, 2015	
Assets:								
Trading assets:								
Debt instruments:								
Mortgage-backed securities:								
U.S. government agencies	$ 904	$ (35)	$ 120	$ (198)	$ (127)	$ –	$ 664	$ (37)
Residential – nonagency	438	(24)	139	(254)	(6)	(274)	19	(4)
Commercial – nonagency	217	(7)	43	(91)	(16)	(140)	6	1
Total mortgage-backed securities	1,559	(66)	302	(543)	(149)	(414)	689	(40)
Obligations of U.S. states and municipalities	59	–	–	–	(5)	(28)	26	–
Non-U.S. government debt securities	302	9	205	(123)	(64)	(255)	74	(15)
Corporate debt securities	2,756	(63)	1,103	(1,064)	(89)	(2,161)	482	(3)
Loans	9,830	(254)	2,995	(4,149)	(1,189)	(1,869)	5,364	(128)
Asset-backed securities	374	(29)	121	(294)	(14)	(80)	78	(12)
Total debt instruments	14,880	(403)	4,726	(6,173)	(1,510)	(4,807)	6,713	(198)
Equity securities	73	22	52	(35)	(28)	4	88	33
Other	1,184	110	1,642	(1,476)	(234)	(884)	342	99
Total trading assets – debt and equity instruments	16,137	(271) [c]	6,420	(7,684)	(1,772)	(5,687)	7,143	(66) [c]
Net derivative receivables:[a]								
Interest rate	335	1,146	545	(245)	(709)	(467)	605	218
Credit	185	110	145	(133)	129	99	535	256
Foreign exchange	(761)	627	40	(137)	(277)	(390)	(898)	151
Equity	(560)	649	3,021	(3,889)	(28)	(416)	(1,223)	74
Commodity	(805)	(893)	(245)	(12)	657	(26)	(1,324)	(780)
Total net derivative receivables	(1,606)	1,639 [c]	3,506	(4,416)	(228)	(1,200)	(2,305)	(81) [c]
Available-for-sale securities:								
Asset-backed securities	833	(22)	48	(20)	(60)	–	779	(28)
Other	129	–	–	–	(29)	(99)	1	–
Total available-for-sale securities	962	(22) [d]	48	(20)	(89)	(99)	780	(28) [d]
Loans	2,213	(143) [c]	1,170	–	(985)	(847)	1,408	(40) [c]
Mortgage servicing rights	7,436	(405) [e]	985	(486)	(922)	–	6,608	(405) [e]
Other assets	4,593	(2) [f]	19	(3,334)	4,394	–	5,670	(4) [f]

Year ended December 31, 2015 (in millions)	Fair value measurements using significant unobservable inputs								Change in unrealized (gains)/losses related to financial instruments held at Dec. 31, 2015
	Fair value at January 1, 2015	Total realized/ unrealized (gains)/ losses	Purchases[g]	Sales	issuances	Settlements[h]	Transfers into and/or out of level 3[i]	Fair value at Dec. 31, 2015	
Liabilities:[b]									
Deposits	$ 2,883	$ (16) [c]	$ 1	$ –	$ 1,945	$ (830)	$ (1,013)	$ 2,970	$ (14) [c]
Other borrowed funds	1,426	(682) [c]	–	–	3,078	(2,753)	(433)	636	(48) [c]
Trading liabilities – debt and equity instruments	51	15 [c]	(141)	134	–	(15)	4	48	(5) [c]
Beneficial interests issued by consolidated VIEs	18	(17) [c]	–	–	208	(209)	–	–	– [c]
Long-term debt	6,970	(414) [c]	(58)	–	6,373	(5,082)	(1,006)	6,783	319 [c]

	Fair value measurements using significant unobservable inputs							
Year ended December 31, 2014 (in millions)	Fair value at January 1, 2014	Total realized/ unrealized gains/ (losses)	Purchases[g]	Sales	Settlements[h]	Transfers into and/or out of level 3[i]	Fair value at Dec. 31, 2014	Change in unrealized gains/(losses) related to financial instruments held at Dec. 31, 2014
Assets:								
Trading assets:								
Debt instruments:								
Mortgage-backed securities:								
U.S. government agencies	$ 912	$ (91)	$ 244	$ (38)	$ (123)	$ –	$ 904	$ (91)
Residential – nonagency	273	14	392	(275)	(12)	46	438	(11)
Commercial – nonagency	89	3	262	(129)	(16)	8	217	(6)
Total mortgage-backed securities	1,274	(74)	898	(442)	(151)	54	1,559	(108)
Obligations of U.S. states and municipalities	75	4	–	(20)	–	–	59	(6)
Non-U.S. government debt securities	143	24	719	(615)	(5)	36	302	10
Corporate debt securities	5,631	258	5,761	(3,157)	(4,637)	(1,100)	2,756	632
Loans	10,476	21	10,644	(5,866)	(3,955)	(1,490)	9,830	(78)
Asset-backed securities	283	(23)	892	(719)	(121)	62	374	(46)
Total debt instruments	17,882	210	18,914	(10,819)	(8,869)	(2,438)	14,880	404
Equity securities	145	48	183	(106)	(139)	(58)	73	16
Other	1,996	271	1,981	(525)	(359)	(2,180)	1,184	(1)
Total trading assets – debt and equity instruments	20,023	529 (c)	21,078	(11,450)	(9,367)	(4,676)	16,137	419 (c)
Net derivative receivables:[a]								
Interest rate	1,888	(44)	207	(255)	(1,353)	(108)	335	(1,125)
Credit	88	(162)	273	(47)	104	(71)	185	(120)
Foreign exchange	(1,433)	(228)	122	(28)	775	31	(761)	(147)
Equity	(834)	340	4,992	(4,454)	(577)	(27)	(560)	1,458
Commodity	(95)	(864)	(12)	–	92	74	(805)	(603)
Total net derivative receivables	(386)	(958) (c)	5,582	(4,784)	(959)	(101)	(1,606)	(537) (c)
Available-for-sale securities:								
Asset-backed securities	1,012	(42)	274	–	(100)	(311)	833	(41)
Other	1,192	(19)	122	–	(223)	(943)	129	(1)
Total available-for-sale securities	2,204	(61) (d)	396	–	(323)	(1,254)	962	(42) (d)
Loans	1,102	(242) (c)	3,206	(563)	(1,290)	–	2,213	(245) (c)
Mortgage servicing rights	9,614	(1,826) (e)	768	(209)	(911)	–	7,436	(1,826) (e)
Other assets	5,975	24 (f)	–	(3,383)	1,977	–	4,593	12 (f)

	Fair value measurements using significant unobservable inputs								
Year ended December 31, 2014 (in millions)	Fair value at January 1, 2014	Total realized/ unrealized (gains)/ losses	Purchases[g]	Sales	Issuances	Settlements[h]	Transfers into and/or out of level 3[i]	Fair value at Dec. 31, 2014	Change in unrealized (gains)/losses related to financial instruments held at Dec. 31, 2014
Liabilities:[b]									
Deposits	$ 2,255	$ 149 (c)	$ –	$ –	$ 1,569	$ (164)	$ (926)	$ 2,883	$ 160 (c)
Other borrowed funds	1,467	(589) (c)	–	–	5,209	(5,439)	778	1,426	(300) (c)
Trading liabilities – debt and equity instruments	89	(3) (c)	(270)	281	–	(3)	(43)	51	1 (c)
Beneficial interests issued by consolidated VIEs	40	2 (c)	–	–	2	(26)	–	18	1 (c)
Long-term debt	6,617	(447) (c)	–	–	6,016	(5,208)	(8)	6,970	(365) (c)

(a) All level 3 derivatives are presented on a net basis, irrespective of underlying counterparty.
(b) Level 3 liabilities as a percentage of total JPMorgan Chase Bank, N.A. liabilities accounted for at fair value (including liabilities measured at fair value on a nonrecurring basis) were 14%, 15% and 17% at December 31, 2016, 2015 and 2014, respectively.
(c) Predominantly reported in principal transactions revenue, except for changes in fair value for mortgage loans within the consumer & community banking business, lending-related commitments originated with the intent to sell, and mortgage loan purchase commitments, which are reported in mortgage fees and related income.

(d) Realized gains/(losses) on AFS securities, as well as other-than-temporary impairment ("OTTI") losses that are recorded in earnings, are reported in securities gains. Unrealized gains/(losses) are reported in OCI. Realized gains/(losses) and foreign exchange hedge accounting adjustments recorded in income on AFS securities were zero, zero, and $(78) million for the years ended December 31, 2016, 2015 and 2014, respectively. Unrealized gains/(losses) recorded on AFS securities in OCI were $2 million, $(25) million and $(19) million for the years ended December 31, 2016, 2015 and 2014, respectively.
(e) Changes in fair value for the consumer & community banking business's MSRs are reported in mortgage fees and related income.
(f) Predominantly reported in other income.
(g) Loan originations are included in purchases.
(h) Includes financial assets and liabilities that have matured, been partially or fully repaid, impacts of modifications, and deconsolidation associated with beneficial interests in VIEs.
(i) All transfers into and/or out of level 3 are assumed to occur at the beginning of the interim reporting period in which they occur.

Level 3 analysis

Consolidated balance sheets changes

Level 3 assets (including assets measured at fair value on a nonrecurring basis) were 1.1% of total JPMorgan Chase Bank, N.A. assets and 4.5% of total assets measured at fair value at December 31, 2016, compared with 1.6% and 6.1%, respectively, at December 31, 2015. The following describes significant changes to level 3 assets since December 31, 2015, for those items measured at fair value on a recurring basis. For further information on changes impacting items measured at fair value on a nonrecurring basis, see Assets and liabilities measured at fair value on a nonrecurring basis on page 36.

For the year ended December 31, 2016

Level 3 assets were $21.3 billion at December 31, 2016, reflecting a decrease of $8.3 billion from December 31, 2015. This decrease was driven by net sales and transfers to Level 2 due to an increase in observability and a decrease in the significance of unobservable inputs. In particular:

- $5.6 billion decrease in Other Assets due to sales and settlements
- $1.6 billion decrease in trading assets – debt and equity instruments was predominantly driven by a decrease of $1.0 billion in trading loans due to settlements
- $1.0 billion decrease in loans due to settlements

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 years ended December 31, 2016, 2015 and 2014. For further information on these instruments, see Changes in level 3 recurring fair value measurements rollforward tables on pages 31–35.

2016

- There were no individually significant movements for the year ended December 31, 2016

2015

- $2.4 billion of net gains in interest rate, foreign exchange and equity derivative receivables largely due to market movements; partially offset by losses on commodity derivatives due to market movements
- $1.1 billion of net gains in liabilities due to market movements

2014

- $1.8 billion of net losses on MSRs. For further discussion of the change, refer to Note 18

Assets and liabilities measured at fair value on a nonrecurring basis

At December 31, 2016 and 2015, assets measured at fair value on a nonrecurring basis were $1.6 billion and $1.7 billion, respectively, consisting predominantly of loans that had fair value adjustments for the years ended December 31, 2016 and 2015. At December 31, 2016, $733 million and $818 million of these assets were classified in levels 2 and 3 of the fair value hierarchy, respectively. At December 31, 2015, $696 million and $956 million of these assets were classified in levels 2 and 3 of the fair value hierarchy, respectively. Liabilities measured at fair value on a nonrecurring basis were not significant at December 31, 2016 and 2015. For the years ended December 31, 2016, 2015 and 2014, there were no significant transfers between levels 1, 2 and 3 related to assets held at the balance sheet date.

Of the $818 million in level 3 assets measured at fair value on a nonrecurring basis as of December 31, 2016:

- $461 million related to residential real estate loans carried at the net realizable value of the underlying collateral (i.e., 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 a broker's price opinion and discounted based upon JPMorgan Chase Bank, N.A.'s experience with actual liquidation values. These discounts to the broker price opinions ranged from 12% to 47%with a weighted average of 25%.

The total change in the recorded value of assets and liabilities for which a fair value adjustment has been included in the Consolidated statements of income for the years ended December 31, 2016, 2015 and 2014, related to financial instruments held at those dates, were losses of $174 million, $294 million and $575 million, respectively; these reductions were predominantly associated with loans.

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), see Note 15.

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

U.S. GAAP requires disclosure of the estimated fair value of certain financial instruments, and the methods and significant assumptions used to estimate their fair value. Financial instruments within the scope of these disclosure requirements are included in the following table. However, certain financial instruments and all nonfinancial instruments are excluded from the scope of these disclosure requirements. Accordingly, the fair value disclosures provided in the following table include only a partial estimate of the fair value of JPMorgan Chase Bank, N.A.'s assets and liabilities. For example, JPMorgan Chase Bank, N.A. has developed long-term relationships with its customers through its deposit base and credit card accounts, commonly referred to as core deposit intangibles and credit card relationships. In the opinion of management, these items, in the aggregate, add significant value to JPMorgan Chase Bank, N.A., but their fair value is not disclosed in this Note.

Financial instruments for which carrying value approximates fair value

Certain financial instruments that are not carried at fair value on the Consolidated balance sheets are carried at amounts that approximate fair value, due to their short-term nature and generally negligible credit risk. These instruments include cash and due from banks, deposits with banks, federal funds sold, securities purchased under resale agreements and securities borrowed, short-term receivables and accrued interest receivable, commercial paper, federal funds purchased, securities loaned and sold under repurchase agreements, other borrowed funds, accounts payable, and accrued liabilities. In addition, U.S. GAAP requires that the fair value of deposit liabilities with no stated maturity (i.e., demand, savings and certain money market deposits) be equal to their carrying value; recognition of the inherent funding value of these instruments is not permitted.

The following table presents by fair value hierarchy classification the carrying values and estimated fair values at December 31, 2016 and 2015, 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. For additional information regarding the financial instruments within the scope of this disclosure, and the methods and significant assumptions used to estimate their fair value, see pages 20–24 of this Note.

	December 31, 2016					December 31, 2015				
		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**	$ 19.4	$ 19.4	$ –	$ –	$ 19.4
Deposits with banks	**388.7**	**352.4**	**36.3**	**–**	**388.7**	316.4	305.6	10.8	–	316.4
Accrued interest and accounts receivable	**40.8**	**–**	**40.7**	**–**	**40.7**	36.4	–	36.3	0.1	36.4
Federal funds sold and securities purchased under resale agreements	**167.3**	**–**	**167.1**	**0.2**	**167.3**	140.5	–	140.5	–	140.5
Securities borrowed	**32.5**	**–**	**32.5**	**–**	**32.5**	25.1	–	25.1	–	25.1
Securities, held-to-maturity	**50.1**	**–**	**50.9**	**–**	**50.9**	49.0	–	50.6	–	50.6
Loans, net of allowance for loan losses[a]	**779.2**	**–**	**29.3**	**744.9**	**774.2**	722.2	–	28.4	699.4	727.8
Other	**48.4**	**–**	**39.2**	**9.0**	**48.2**	47.1	–	39.0	8.6	47.6
Financial liabilities										
Deposits	**$ 1,466.2**	**$ –**	**$ 1,466.4**	**$ –**	**$ 1,466.4**	$ 1,300.1	$ –	$ 1,299.0	$ 1.2	$ 1,300.2
Federal funds purchased and securities loaned or sold under repurchase agreements	**74.4**	**–**	**74.4**	**–**	**74.4**	76.6	–	76.6	–	76.6
Other borrowed funds	**6.6**	**–**	**6.6**	**–**	**6.6**	23.5	–	23.5	–	23.5
Accounts payable and other liabilities	**52.7**	**–**	**49.7**	**3.0**	**52.7**	51.3	–	48.8	2.4	51.2
Beneficial interests issued by consolidated VIEs	**7.5**	**–**	**7.4**	**–**	**7.4**	12.9	–	11.9	0.9	12.8
Long-term debt and junior subordinated deferrable interest debentures	**92.2**	**–**	**90.1**	**2.0**	**92.1**	94.0	–	90.2	4.3	94.5

(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. For a further discussion of JPMorgan Chase Bank, N.A.'s methodologies for estimating the fair value of loans and lending-related commitments, see Valuation hierarchy on pages 20-24.

The majority of JPMorgan Chase Bank, N.A.'s lending-related commitments are not carried at fair value on a recurring basis on the Consolidated balance sheets, nor are they actively traded. 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.

	December 31, 2016					December 31, 2015				
		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
Wholesale lending-related commitments	**$ 1.1**	**$ –**	**$ –**	**$ 2.1**	**$ 2.1**	$ 0.8	$ –	$ –	$ 2.9	$ 2.9

(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.

JPMorgan Chase Bank, N.A. does not estimate the fair value of consumer lending-related commitments. In many cases, JPMorgan Chase Bank, N.A. can reduce or cancel these commitments by providing the borrower notice or, in some cases as permitted by law, without notice. For a further discussion of the valuation of lending-related commitments, see page 22 of this Note.

Note 5 – Fair value option

The fair value option provides an option to elect fair value as an alternative measurement for selected financial assets, financial liabilities, unrecognized firm commitments, and written loan commitments.

JPMorgan Chase Bank, N.A. has elected to measure certain instruments at fair value for several reasons including to mitigate income statement volatility caused by the differences between the measurement basis of elected instruments (e.g. certain instruments elected were previously accounted for on an accrual basis) and the associated risk management arrangements that are accounted for on a fair value basis, as well as to better reflect those instruments that are managed on a fair value basis.

JPMorgan Chase Bank, N.A.'s election of fair value includes the following instruments:

- Loans purchased or originated as part of securitization warehousing activity, subject to bifurcation accounting, or managed on a fair value basis
- Certain securities financing arrangements with an embedded derivative and/or a maturity of greater than one year
- Owned beneficial interests in securitized financial assets that contain embedded credit derivatives, which would otherwise be required to be separately accounted for as a derivative instrument
- Structured notes, which are predominantly financial instruments that contain embedded derivatives, that are issued as part of the corporate & investment banking business's client-driven activities
- Certain long-term beneficial interests issued by the corporate & investment banking business's consolidated securitization trusts where the underlying assets are carried at fair value

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 years ended December 31, 2016, 2015 and 2014, 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.

	2016			2015			2014		
December 31, (in millions)	Principal transactions	All other income	Total changes in fair value recorded	Principal transactions	All other income	Total changes in fair value recorded	Principal transactions	All other income	Total changes in fair value recorded
Federal funds sold and securities purchased under resale agreements	**$ (56)**	**$ –**	**$ (56)**	$ (32)	$ –	$ (32)	$ (27)	$ –	$ (27)
Securities borrowed	**1**	**–**	**1**	(6)	–	(6)	(10)	–	(10)
Trading assets:									
Debt and equity instruments, excluding loans	**144**	**–**	**144**	603	–	603	711	–	711
Loans reported as trading assets:									
Changes in instrument-specific credit risk	**423**	**43** (c)	**466**	101	41 (c)	142	506	29 (c)	535
Other changes in fair value	**68**	**684** (c)	**752**	200	818 (c)	1,018	345	1,353 (c)	1,698
Loans:									
Changes in instrument-specific credit risk	**13**	**–**	**13**	37	–	37	44	–	44
Other changes in fair value	**(7)**	**–**	**(7)**	4	–	4	29	–	29
Other assets	**(6)**	**–** (d)	**(6)**	(2)	5 (d)	3	–	26 (d)	26
Deposits[(a)]	**(165)**	**–**	**(165)**	94	–	94	(295)	–	(295)
Federal funds purchased and securities loaned or sold under repurchase agreements	**12**	**–**	**12**	6	–	6	(21)	–	(21)
Other borrowed funds[(a)]	**21**	**–**	**21**	194	–	194	(949)	–	(949)
Trading liabilities	**6**	**–**	**6**	(20)	–	(20)	(17)	–	(17)
Beneficial interests issued by consolidated VIEs	**–**	**–**	**–**	14	–	14	(3)	–	(3)
Long-term debt:									
DVA on fair value option elected liabilities[(a)]	**–**	**–**	**–**	300	–	300	101	–	101
Other changes in fair value[(b)]	**(632)**	**–**	**(632)**	752	–	752	(374)	–	(374)

(a) Effective January 1, 2016, 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. DVA for 2015 and 2014 was included in principal transactions revenue, and includes the impact of JPMorgan Chase Bank, N.A.'s own credit quality on the inception value of liabilities as well as the impact of changes in JPMorgan Chase Bank, N.A.'s own credit quality subsequent to issuance. See Note 23 for further information.
(b) Long-term debt measured at fair value predominantly relates to structured notes containing embedded derivatives. 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.

Determination of instrument-specific credit risk for items for which a fair value election was made

The following describes how the gains and losses that are attributable to changes in instrument-specific credit risk, were determined.

- Loans and lending-related commitments: For floating-rate instruments, all changes in value are attributed to instrument-specific credit risk. For fixed-rate instruments, an allocation of the changes in value for the period is made between those changes in value that are interest rate-related and changes in value that are credit-related. Allocations are generally based on an analysis of borrower-specific credit spread and recovery information, where available, or benchmarking to similar entities or industries.
- Long-term debt: Changes in value attributable to instrument-specific credit risk were derived principally from observable changes in JPMorgan Chase Bank, N.A.'s credit spread.
- Resale and repurchase agreements, securities borrowed agreements and securities lending agreements: Generally, for these types of agreements, there is a requirement that collateral be maintained with a market value equal to or in excess of the principal amount loaned; as a result, there would be no adjustment or an immaterial adjustment for instrument-specific credit risk related to these agreements.

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 December 31, 2016 and 2015, for loans, long-term debt and long-term beneficial interests for which the fair value option has been elected.

	2016			2015		
December 31, (in millions)	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	**$ 1,986**	**$ 477**	**$ (1,509)**	$ 1,855	$ 247	$ (1,608)
All other performing loans						
Loans reported as trading assets	**33,736**	**32,606**	**(1,130)**	28,094	26,930	(1,164)
Loans	**2,259**	**2,228**	**(31)**	2,771	2,752	(19)
Total loans	**$ 37,981**	**$ 35,311**	**$ (2,670)**	$ 32,720	$ 29,929	$ (2,791)
Long-term debt						
Principal-protected debt	**$ 3,577** [c]	**$ 3,280**	**$ (297)**	$ 2,778 [c]	$ 2,673	$ (105)
Nonprincipal-protected debt[b]	**NA**	**11,656**	**NA**	NA	12,056	NA
Total long-term debt	**NA**	**$ 14,936**	**NA**	NA	$ 14,729	NA
Long-term beneficial interests						
Nonprincipal-protected debt	**NA**	**$ —**	**NA**	NA	$ —	NA
Total long-term beneficial interests	**NA**	**$ —**	**NA**	NA	$ —	NA

(a) There were no performing loans that were ninety days or more past due as of December 31, 2016 and 2015, respectively.
(b) Remaining contractual principal is not applicable to nonprincipal-protected notes. Unlike principal-protected structured notes, for which JPMorgan Chase Bank, N.A. is obligated to return a stated amount of principal at the maturity of the note, nonprincipal-protected structured notes do not obligate JPMorgan Chase Bank, N.A. to return a stated amount of principal at maturity, but 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 JPMorgan Chase Bank, N.A. as issuer for both nonprincipal-protected and principal protected notes.
(c) Where JPMorgan Chase Bank, N.A. 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 JPMorgan Chase Bank, N.A.'s next call date.

At December 31, 2016 and 2015, the contractual amount of lending-related commitments for which the fair value option was elected was $4.6 billion for both years, with a corresponding fair value of $(131) million and $(113) million, respectively. For further information regarding off-balance sheet lending-related financial instruments, see Note 27.

Note 6 – Credit risk concentrations

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

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

In JPMorgan Chase Bank, N.A.'s consumer portfolio, concentrations are evaluated primarily by product and by U.S. geographic region, with a key focus on trends and concentrations at the portfolio level, where potential credit risk concentrations can be remedied through changes in underwriting policies and portfolio guidelines. In the wholesale portfolio, credit risk concentrations are evaluated primarily by industry and monitored regularly on both an aggregate portfolio level and on an individual customer basis. JPMorgan Chase Bank, N.A.'s wholesale exposure is managed through loan syndications and participations, loan sales, securitizations, credit derivatives, master netting agreements, and collateral and other risk-reduction techniques. For additional information on loans, see Note 15.

JPMorgan Chase Bank, N.A. does not believe that its exposure to any particular loan product (e.g., option adjustable rate mortgages ("ARMs")), or industry segment (e.g., commercial real estate), or its exposure to residential real estate loans with high LTV ratios, results in a significant concentration of credit risk.

Terms of loan products and collateral coverage are included in JPMorgan Chase Bank, N.A.'s assessment when extending credit and establishing its allowance for loan losses.

The table below presents both on-balance sheet and off-balance sheet consumer and wholesale-related credit exposure by JPMorgan Chase Bank, N.A.'s three credit portfolio segments as of December 31, 2016 and 2015.

	2016				2015			
	Credit exposure	On-balance sheet		Off-balance sheet[g]	Credit exposure	On-balance sheet		Off-balance sheet[g]
December 31, (in millions)		Loans	Derivatives			Loans	Derivatives	
Total consumer, excluding credit card	**$ 419,609**	**$ 364,598**	**$ –**	**$ 55,011**	$ 403,406	$ 344,766	$ –	$ 58,640
Total credit card	**47,076**	**35,878**	**–**	**11,198**	41,451	31,065	–	10,386
Total consumer	**466,685**	**400,476**	**–**	**66,209**	444,857	375,831	–	69,026
Wholesale-related[a]								
Real Estate	**134,931**	**106,309**	**218**	**28,404**	116,829	92,792	312	23,725
Consumer & Retail	**85,240**	**29,714**	**1,082**	**54,444**	84,192	27,001	1,574	55,617
Technology, Media & Telecommunications	**62,922**	**13,842**	**1,227**	**47,853**	57,345	11,058	1,032	45,255
Industrials	**55,443**	**17,143**	**1,615**	**36,685**	54,341	16,783	1,428	36,130
Banks & Finance Cos	**51,030**	**24,460**	**13,633**	**12,937**	46,398	23,401	10,218	12,779
Healthcare	**47,227**	**14,481**	**2,277**	**30,469**	43,557	14,819	2,751	25,987
Oil & Gas	**39,974**	**12,973**	**1,860**	**25,141**	41,623	13,233	1,558	26,832
Asset Managers	**30,357**	**10,293**	**10,644**	**9,420**	22,690	6,639	7,733	8,318
Utilities	**29,405**	**7,036**	**883**	**21,486**	30,026	5,102	1,128	23,796
State & Municipal Govt[b]	**27,365**	**11,518**	**2,096**	**13,751**	27,980	8,510	3,279	16,191
Central Govt	**20,346**	**3,964**	**14,173**	**2,209**	17,968	2,000	13,240	2,728
Transportation	**18,939**	**8,916**	**751**	**9,272**	19,199	9,129	1,575	8,495
Automotive	**16,635**	**4,943**	**1,190**	**10,502**	13,864	4,473	1,350	8,041
Chemicals & Plastics	**14,989**	**5,287**	**271**	**9,431**	15,231	4,033	369	10,829
Metals & Mining	**13,402**	**4,349**	**436**	**8,617**	14,022	4,618	608	8,796
Insurance	**13,146**	**947**	**3,377**	**8,822**	11,888	1,094	1,991	8,803
Financial Markets Infrastructure	**4,878**	**347**	**2,461**	**2,070**	6,169	724	2,602	2,843
Securities Firms	**3,712**	**1,036**	**1,913**	**763**	3,267	861	1,424	982
All other[c]	**145,070**	**109,574**	**3,811**	**31,685**	149,720	109,761	5,324	34,635
Subtotal	**815,011**	**387,132**	**63,918**	**363,961**	776,309	356,031	59,496	360,782
Loans held-for-sale and loans at fair value	**4,511**	**4,511**	**–**	**–**	3,855	3,855	–	–
Receivables from customers and other[d]	**1,197**	**–**	**–**	**–**	480	–	–	–
Total wholesale-related	**820,719**	**391,643**	**63,918**	**363,961**	780,644	359,886	59,496	360,782
Total exposure[e][f]	**$ 1,287,404**	**$ 792,119**	**$ 63,918**	**$ 430,170**	$ 1,225,501	$ 735,717	$ 59,496	$ 429,808

(a) The industry rankings presented in the table as of December 31, 2015, are based on the industry rankings of the corresponding exposures at December 31, 2016, not actual rankings of such exposures at December 31, 2015.

(b) In addition to the credit risk exposure to states and municipal governments (both U.S. and non-U.S.) at December 31, 2016 and 2015, noted above, JPMorgan Chase Bank, N.A. held: $3.9 billion and $3.9 billion, respectively, of trading securities; $28.9 billion and $30.4 billion, respectively, of AFS securities; and $14.5 billion and $12.8 billion, respectively, of HTM securities, issued by U.S. state and municipal governments. For further information, see Note 4 and Note 13.

(c) All other includes: individuals; SPEs; holding companies; and private education and civic organizations. For more information on exposures to SPEs, see Note 17.

(d) Receivables from customers primarily represent margin loans to 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 JPMorgan Chase Bank, N.A.'s Consolidated balance sheets.

(e) For further information regarding on-balance sheet credit concentrations by major product and/or geography, see Note 7 and Note 15. For information regarding concentrations of off-balance sheet lending-related financial instruments by major product, see Note 27.

(f) Excludes cash placed with banks of $367.9 billion and $326.2 billion, at December 31, 2016 and 2015, respectively, which is largely placed with a Federal Reserve Bank.

(g) Represents lending-related financial instruments.

Note 7 – Derivative instruments

Derivative contracts derive their value from underlying asset prices, indices, reference rates, other inputs or a combination of these factors and may expose counterparties to risks and rewards of an underlying asset or liability without having to initially invest in, own or exchange the asset or liability. JPMorgan Chase Bank, N.A. makes markets in derivatives for clients and also uses derivatives to hedge or manage its own risk exposures. Predominantly all of JPMorgan Chase Bank, N.A.'s derivatives are entered into for market-making or risk management purposes.

Market-making derivatives
The majority of JPMorgan Chase Bank, N.A.'s derivatives are entered into for market-making purposes. Clients use derivatives to mitigate or modify interest rate, credit, foreign exchange, equity and commodity risks. JPMorgan Chase Bank, N.A. actively manages the risks from its exposure to these derivatives by entering into other derivative transactions or by purchasing or selling other financial instruments that partially or fully offset the exposure from client derivatives.

Risk management derivatives
JPMorgan Chase Bank, N.A. manages certain market and credit risk exposures using derivative instruments, including derivatives in hedge accounting relationships and other derivatives that are used to manage risks associated with specified assets and liabilities.

Interest rate contracts are used to minimize fluctuations in earnings that are caused by changes in interest rates. Fixed-rate assets and liabilities appreciate or depreciate in market value as interest rates change. Similarly, interest income and expense increases or decreases as a result of variable-rate assets and liabilities resetting to current market rates, and as a result of the repayment and subsequent origination or issuance of fixed-rate assets and liabilities at current market rates. Gains or losses on the derivative instruments that are related to such assets and liabilities are expected to substantially offset this variability in earnings. JPMorgan Chase Bank, N.A. generally uses interest rate swaps, forwards and futures to manage the impact of interest rate fluctuations on earnings.

Foreign currency forward contracts are used to manage the foreign exchange risk associated with certain foreign currency–denominated (i.e., non-U.S. dollar) assets and liabilities and forecasted transactions, as well as JPMorgan Chase Bank, N.A.'s net investments in certain non-U.S. subsidiaries or branches whose functional currencies are not the U.S. dollar. As a result of fluctuations in foreign currencies, the U.S. dollar–equivalent values of the foreign currency–denominated assets and liabilities or the forecasted revenues or expenses increase or decrease. Gains or losses on the derivative instruments related to these foreign currency–denominated assets or liabilities, or forecasted transactions, are expected to substantially offset this variability.

Commodities contracts are used to manage the price risk of certain commodities inventories. Gains or losses on these derivative instruments are expected to substantially offset the depreciation or appreciation of the related inventory.

Credit derivatives are used to manage the counterparty credit risk associated with loans and lending-related commitments. Credit derivatives compensate the purchaser when the entity referenced in the contract experiences a credit event, such as bankruptcy or a failure to pay an obligation when due. Credit derivatives primarily consist of CDS. For a further discussion of credit derivatives, see the discussion in the Credit derivatives section on pages 53–56 of this Note.

For more information about risk management derivatives, see the risk management derivatives gains and losses table on page 53 of this Note, and the hedge accounting gains and losses tables on pages 51–53 of this Note.

Derivative counterparties and settlement types
JPMorgan Chase Bank, N.A. enters into OTC derivatives with third parties and JPMorgan Chase affiliates, which are negotiated and settled bilaterally with the derivative counterparty. JPMorgan Chase Bank, N.A. also enters into, as principal, certain exchange-traded derivatives ("ETD") such as futures and options, and "cleared" over-the-counter ("OTC-cleared") derivative contracts with CCPs. ETD contracts are generally standardized contracts traded on an exchange and cleared by the CCP, which is JPMorgan Chase Bank, N.A.'s counterparty from the inception of the transactions. OTC-cleared derivatives are traded on a bilateral basis and then novated to the CCP for clearing.

Derivative clearing services
JPMorgan Chase Bank, N.A. provides clearing services for clients where JPMorgan Chase Bank, N.A. acts as a clearing member with respect to certain derivative exchanges and clearing houses. JPMorgan Chase Bank, N.A. does not reflect the clients' derivative contracts in its Consolidated Financial Statements. For further information on JPMorgan Chase Bank, N.A.'s clearing services, see Note 27.

Accounting for derivatives

All free-standing derivatives that JPMorgan Chase Bank, N.A. executes for its own account are required to be recorded on the Consolidated balance sheets at fair value.

As permitted under U.S. GAAP JPMorgan Chase Bank, N.A. nets derivative assets and liabilities, and the related cash collateral receivables and payables, when a legally enforceable master netting agreement exists between JPMorgan Chase Bank, N.A. and the derivative counterparty. For further discussion of the offsetting of assets and liabilities, see Note 1. The accounting for changes in value of a derivative depends on whether or not the transaction has been designated and qualifies for hedge accounting. Derivatives that are not designated as hedges are reported and measured at fair value through earnings. The tabular disclosures on pages 46–53 of this Note provide additional information on the amount of, and reporting for, derivative

assets, liabilities, gains and losses. For further discussion of derivatives embedded in structured notes, see Notes 4 and 5.

Derivatives designated as hedges

JPMorgan Chase Bank, N.A. applies hedge accounting to certain derivatives executed for risk management purposes – generally interest rate, foreign exchange and commodity derivatives. However, JPMorgan Chase Bank, N.A. does not seek to apply hedge accounting to all of the derivatives involved in its risk management activities. For example, JPMorgan Chase Bank, N.A. does not apply hedge accounting to purchased CDS used to manage the credit risk of loans and lending-related commitments, because of the difficulties in qualifying such contracts as hedges. For the same reason, JPMorgan Chase Bank, N.A. does not apply hedge accounting to certain interest rate, foreign exchange, and commodity derivatives used for risk management purposes.

To qualify for hedge accounting, a derivative must be highly effective at reducing the risk associated with the exposure being hedged. In addition, for a derivative to be designated as a hedge, the risk management objective and strategy must be documented. Hedge documentation must identify the derivative hedging instrument, the asset or liability or forecasted transaction and type of risk to be hedged, and how the effectiveness of the derivative is assessed prospectively and retrospectively. To assess effectiveness, JPMorgan Chase Bank, N.A. uses statistical methods such as regression analysis, as well as nonstatistical methods including dollar-value comparisons of the change in the fair value of the derivative to the change in the fair value or cash flows of the hedged item. The extent to which a derivative has been, and is expected to continue to be, effective at offsetting changes in the fair value or cash flows of the hedged item must be assessed and documented at least quarterly. Any hedge ineffectiveness (i.e., the amount by which the gain or loss on the designated derivative instrument does not exactly offset the change in the hedged item attributable to the hedged risk) must be reported in current-period earnings. If it is determined that a derivative is not highly effective at hedging the designated exposure, hedge accounting is discontinued.

There are three types of hedge accounting designations: fair value hedges, cash flow hedges and net investment hedges. JPMorgan Chase Bank, N.A. uses fair value hedges primarily to hedge fixed-rate long-term debt, AFS securities and certain commodities inventories. For qualifying fair value hedges, the changes in the fair value of the derivative, and in the value of the hedged item for the risk being hedged, are recognized in earnings. If the hedge relationship is terminated, then the adjustment to the hedged item continues to be reported as part of the basis of the hedged item, and for benchmark interest rate hedges, is amortized to earnings as a yield adjustment. Derivative amounts affecting earnings are recognized consistent with the classification of the hedged item – primarily net interest income and principal transactions revenue.

JPMorgan Chase Bank, N.A. uses cash flow hedges primarily to hedge the exposure to variability in forecasted cash flows from floating-rate assets and liabilities and foreign currency–denominated revenue and expense. For qualifying cash flow hedges, the effective portion of the change in the fair value of the derivative is recorded in OCI and recognized in the Consolidated statements of income when the hedged cash flows affect earnings. Derivative amounts affecting earnings are recognized consistent with the classification of the hedged item – primarily interest income, interest expense, noninterest revenue and compensation expense. The ineffective portions of cash flow hedges are immediately recognized in earnings. If the hedge relationship is terminated, then the value of the derivative recorded in accumulated other comprehensive income/(loss) (“AOCI”) is recognized in earnings when the cash flows that were hedged affect earnings. For hedge relationships that are discontinued because a forecasted transaction is not expected to occur according to the original hedge forecast, any related derivative values recorded in AOCI are immediately recognized in earnings.

JPMorgan Chase Bank, N.A. uses net investment hedges to protect the value of JPMorgan Chase Bank, N.A.’s net investments in certain non-U.S. subsidiaries or branches whose functional currencies are not the U.S. dollar. For foreign currency qualifying net investment hedges, changes in the fair value of the derivatives are recorded in the translation adjustments account within AOCI.

The following table outlines JPMorgan Chase Bank, N.A.'s primary uses of derivatives and the related hedge accounting designation or disclosure category.

Type of Derivative	Use of Derivative	Designation and disclosure	Page reference
Manage specifically identified risk exposures in qualifying hedge accounting relationships:			
◦ Interest rate	Hedge fixed rate assets and liabilities	Fair value hedge	51
◦ Interest rate	Hedge floating-rate assets and liabilities	Cash flow hedge	52
◦ Foreign exchange	Hedge foreign currency-denominated assets and liabilities	Fair value hedge	51
◦ Foreign exchange	Hedge forecasted revenue and expense	Cash flow hedge	52
◦ Foreign exchange	Hedge the value of JPMorgan Chase Bank, N.A.'s investments in non-U.S. subsidiaries	Net investment hedge	53
◦ Commodity	Hedge commodity inventory	Fair value hedge	51
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	53
◦ Credit	Manage the credit risk of wholesale lending exposures	Specified risk management	53
◦ Commodity	Manage the risk of certain commodities-related contracts and investments	Specified risk management	53
◦Interest rate and foreign exchange	Manage the risk of certain other specified assets and liabilities	Specified risk management	53
Market-making derivatives and other activities:			
• Various	Market-making and related risk management	Market-making and other	53
• Various	Other derivatives	Market-making and other	53

Notional amount of derivative contracts

The following table summarizes the notional amount of derivative contracts outstanding as of December 31, 2016 and 2015.

	Notional amounts[b]	
December 31, (in billions)	**2016**	2015
Interest rate contracts		
Swaps	**$ 22,261**	$ 24,394
Futures and forwards	**4,917**	4,885
Written options	**3,101**	3,524
Purchased options	**3,514**	3,927
Total interest rate contracts	**33,793**	36,730
Credit derivatives[a]	**2,010**	2,893
Foreign exchange contracts		
Cross-currency swaps	**3,379**	3,213
Spot, futures and forwards	**5,385**	5,083
Written options	**735**	690
Purchased options	**721**	706
Total foreign exchange contracts	**10,220**	9,692
Equity contracts		
Swaps	**360**	318
Futures and forwards	**47**	40
Written options	**442**	441
Purchased options	**415**	408
Total equity contracts	**1,264**	1,207
Commodity contracts		
Swaps	**448**	345
Spot, futures and forwards	**131**	92
Written options	**98**	135
Purchased options	**109**	136
Total commodity contracts	**786**	708
Total derivative notional amounts	**$ 48,073**	$ 51,230

(a) For more information on volumes and types of credit derivative contracts, see the Credit derivatives discussion on pages 53–56.

(b) Represents the sum of gross long and gross short notional derivative contracts with third-parties and JPMorgan Chase affiliates. For additional information on related party derivatives, see Note 22.

While the notional amounts disclosed above give an indication of the volume of JPMorgan Chase Bank, N.A.'s derivatives activity, the notional amounts significantly exceed, in JPMorgan Chase Bank, N.A.'s view, the possible losses that could arise from such transactions. For most derivative transactions, 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 tables below include derivative receivables and payables with affiliates on a net basis. See Note 22 for information regarding our derivative activities with affiliates.

The following table summarizes information on derivative receivables and payables (before and after netting adjustments) that are reflected on JPMorgan Chase Bank, N.A.'s Consolidated balance sheets as of December 31, 2016 and 2015, 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			
December 31, 2016 (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	**$ 608,615**	**$ 1,725**	**$ 610,340**	**$ 28,020**	**$ 575,626**	**$ 1,520**	**$ 577,146**	**$ 10,545**
Credit	**29,149**	**—**	**29,149**	**1,233**	**28,336**	**—**	**28,336**	**1,298**
Foreign exchange	**234,301**	**1,297**	**235,598**	**23,319**	**235,409**	**490**	**235,899**	**20,466**
Equity	**50,905**	**—**	**50,905**	**5,026**	**54,839**	**—**	**54,839**	**8,532**
Commodity	**35,287**	**3**	**35,290**	**6,320**	**35,268**	**1**	**35,269**	**7,794**
Total fair value of trading assets and liabilities	**$ 958,257**	**$ 3,025**	**$ 961,282**	**$ 63,918**	**$ 929,478**	**$ 2,011**	**$ 931,489**	**$ 48,635**

	Gross derivative receivables				Gross derivative payables			
December 31, 2015 (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	$ 679,090	$ 776	$ 679,866	$ 27,099	$ 644,227	$ 2,081	$ 646,308	$ 11,814
Credit	51,583	—	51,583	1,424	50,872	—	50,872	1,770
Foreign exchange	180,070	788	180,858	17,437	191,793	364	192,157	20,321
Equity	53,694	—	53,694	5,756	55,791	—	55,791	8,699
Commodity	40,719	9	40,728	7,780	42,503	—	42,503	10,180
Total fair value of trading assets and liabilities	$1,005,156	$ 1,573	$1,006,729	$ 59,496	$ 985,186	$ 2,445	$ 987,631	$ 52,784

(a) Balances exclude structured notes for which the fair value option has been elected. See Note 5 for further information.
(b) As permitted under U.S. GAAP, JPMorgan Chase Bank, N.A. 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 December 31, 2016 and 2015, 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 JPMorgan Chase Bank, N.A. 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, JPMorgan Chase Bank, N.A. receives and transfers additional collateral (financial instruments and cash). These amounts mitigate counterparty credit risk associated with JPMorgan Chase Bank, N.A.'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 bonds) 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.

December 31, (in millions)	2016			2015		
	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:						
OTC	**$ 368,159**	**$ (347,647)**	**$ 20,512**	$ 427,840	$ (406,182)	$ 21,658
OTC-cleared	**234,525**	**(234,446)**	**79**	246,594	(246,585)	9
Exchange-traded[a]	**241**	**(227)**	**14**	–	–	–
Total interest rate contracts	**602,925**	**(582,320)**	**20,605**	674,434	(652,767)	21,667
Credit contracts:						
OTC	**22,638**	**(22,177)**	**461**	44,203	(43,297)	906
OTC-cleared	**5,746**	**(5,739)**	**7**	6,865	(6,862)	3
Total credit contracts	**28,384**	**(27,916)**	**468**	51,068	(50,159)	909
Foreign exchange contracts:						
OTC	**228,427**	**(211,087)**	**17,340**	176,177	(163,100)	13,077
OTC-cleared	**1,238**	**(1,165)**	**73**	323	(321)	2
Exchange-traded[a]	**104**	**(27)**	**77**	–	–	–
Total foreign exchange contracts	**229,769**	**(212,279)**	**17,490**	176,500	(163,421)	13,079
Equity contracts:						
OTC	**39,097**	**(38,298)**	**799**	40,056	(39,568)	488
OTC-cleared	**–**	**–**	**–**	–	–	–
Exchange-traded[a]	**9,075**	**(7,581)**	**1,494**	10,754	(8,370)	2,384
Total equity contracts	**48,172**	**(45,879)**	**2,293**	50,810	(47,938)	2,872
Commodity contracts:						
OTC	**28,255**	**(22,206)**	**6,049**	30,996	(23,892)	7,104
OTC-cleared	**–**	**–**	**–**	–	–	–
Exchange-traded[a]	**6,792**	**(6,764)**	**28**	9,124	(9,056)	68
Total commodity contracts	**35,047**	**(28,970)**	**6,077**	40,120	(32,948)	7,172
Derivative receivables with appropriate legal opinion	**$ 944,297**	**$ (897,364)** [b]	**$ 46,933**	$ 992,932	$ (947,233) [b]	$ 45,699
Derivative receivables where an appropriate legal opinion has not been either sought or obtained	**16,985**		**16,985**	13,797		13,797
Total derivative receivables recognized on the Consolidated balance sheets	**$ 961,282**		**$ 63,918**	$ 1,006,729		$ 59,496
Collateral not nettable on the Consolidated balance sheets[c][d]			**(18,594)**			(13,354)
Net amounts			**$ 45,324**			$ 46,142

December 31, (in millions)	2016 Gross derivative payables	2016 Amounts netted on the Consolidated balance sheets	2016 Net derivative payables	2015 Gross derivative payables	2015 Amounts netted on the Consolidated balance sheets	2015 Net derivative payables
U.S. GAAP nettable derivative payables						
Interest rate contracts:						
OTC	**$ 345,931**	**$ (336,778)**	**$ 9,153**	$ 405,054	$ (394,282)	$ 10,772
OTC-cleared	**229,649**	**(229,648)**	**1**	240,241	(240,212)	29
Exchange-traded[(a)]	**196**	**(175)**	**21**	–	–	–
Total interest rate contracts	**575,776**	**(566,601)**	**9,175**	645,295	(634,494)	10,801
Credit contracts:						
OTC	**21,944**	**(21,397)**	**547**	44,731	(43,133)	1,598
OTC-cleared	**5,641**	**(5,641)**	**–**	5,969	(5,969)	–
Total credit contracts	**27,585**	**(27,038)**	**547**	50,700	(49,102)	1,598
Foreign exchange contracts:						
OTC	**229,290**	**(214,266)**	**15,024**	186,567	(171,535)	15,032
OTC-cleared	**1,158**	**(1,158)**	**–**	301	(301)	–
Exchange-traded[(a)]	**328**	**(9)**	**319**	–	–	–
Total foreign exchange contracts	**230,776**	**(215,433)**	**15,343**	186,868	(171,836)	15,032
Equity contracts:						
OTC	**43,013**	**(38,743)**	**4,270**	42,683	(38,722)	3,961
OTC-cleared	**–**	**–**	**–**	–	–	–
Exchange-traded[(a)]	**8,154**	**(7,564)**	**590**	8,911	(8,370)	541
Total equity contracts	**51,167**	**(46,307)**	**4,860**	51,594	(47,092)	4,502
Commodity contracts:						
OTC	**27,729**	**(20,624)**	**7,105**	31,976	(23,054)	8,922
OTC-cleared	**–**	**–**	**–**	–	–	–
Exchange-traded[(a)]	**7,089**	**(6,851)**	**238**	9,322	(9,269)	53
Total commodity contracts	**34,818**	**(27,475)**	**7,343**	41,298	(32,323)	8,975
Derivative payables with appropriate legal opinions	**$ 920,122**	**$ (882,854)** [(b)]	**$ 37,268**	$ 975,755	$ (934,847) [(b)]	$ 40,908
Derivative payables where an appropriate legal opinion has not been either sought or obtained	**11,367**		**11,367**	11,876		11,876
Total derivative payables recognized on the Consolidated balance sheets	**$ 931,489**		**$ 48,635**	$ 987,631		$ 52,784
Collateral not nettable on the Consolidated balance sheets[(c)(d)(e)]			**(8,926)**			(7,946)
Net amounts			**$ 39,709**			$ 44,838

(a) Exchange-traded derivative balances that relate to futures contracts are settled daily.

(b) Net derivatives receivable included cash collateral netted of $71.4 billion and $73.4 billion at December 31, 2016 and 2015, respectively. Net derivatives payable included cash collateral netted of $56.9 billion and $61.1 billion related to OTC and OTC-cleared derivatives at December 31, 2016 and 2015, respectively.

(c) Excludes all collateral related to derivative instruments where an appropriate legal opinion has not been either sought or obtained.

(d) 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.

(e) Derivative payables collateral relates only to OTC and OTC-cleared derivative instruments. Amounts exclude collateral transferred related to exchange-traded derivative instruments.

Liquidity risk and credit-related contingent features

In addition to the specific market risks introduced by each derivative contract type, derivatives expose JPMorgan Chase Bank, N.A. to credit risk – the risk that derivative counterparties may fail to meet their payment obligations under the derivative contracts and the collateral, if any, held by JPMorgan Chase Bank, N.A. proves to be of insufficient value to cover the payment obligation. It is the policy of JPMorgan Chase Bank, N.A. to actively pursue, where possible, the use of legally enforceable master netting arrangements and collateral agreements to mitigate derivative counterparty credit risk. The amount of derivative receivables reported on the Consolidated balance sheets is the fair value of the derivative contracts after giving effect to legally enforceable master netting agreements and cash collateral held by JPMorgan Chase Bank, N.A.

While derivative receivables expose JPMorgan Chase Bank, N.A. to credit risk, derivative payables expose JPMorgan Chase Bank, N.A. to liquidity risk, as the derivative contracts typically require JPMorgan Chase Bank, N.A. to post cash or securities collateral with counterparties as the fair value of the contracts moves in the counterparties' favor or upon specified downgrades in JPMorgan Chase Bank, N.A.'s and its subsidiaries' respective credit ratings. Certain derivative contracts also provide for termination of the contract, generally upon a downgrade of either JPMorgan Chase Bank, N.A. or the counterparty, at the fair value of the 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 JPMorgan Chase Bank, N.A. has posted in the normal course of business, at December 31, 2016 and 2015.

OTC and OTC-cleared derivative payables containing downgrade triggers

December 31, (in millions)	**2016**	2015
Aggregate fair value of net derivative payables	**$ 21,200**	$ 21,934
Collateral posted	**19,195**	18,176

The following table shows the impact of a single-notch and two-notch downgrade of the long-term issuer ratings of JPMorgan Chase Bank, N.A. and its subsidiaries at December 31, 2016 and 2015, 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

	2016		2015	
December 31, (in millions)	Single-notch downgrade	Two-notch downgrade	Single-notch downgrade	Two-notch downgrade
Amount of additional collateral to be posted upon downgrade[(a)]	**$ 560**	**$ 2,489**	$ 787	$ 3,001
Amount required to settle contracts with termination triggers upon downgrade[(b)]	**606**	**1,049**	271	1,093

(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 JPMorgan Chase Bank, N.A. 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. JPMorgan Chase Bank, N.A. generally accounts for such transfers as collateralized financing transactions as described in Note 14, 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 at December 31, 2016 was not material.

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. See Note 22 for information regarding our derivative activities with affiliates.

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 years ended December 31, 2016, 2015 and 2014, respectively. JPMorgan Chase Bank, N.A. includes gains/(losses) on the hedging derivative and the related hedged item in the same line item in the Consolidated statements of income.

	Gains/(losses) recorded in income			Income statement impact due to:	
Year ended December 31, 2016 (in millions)	Derivatives	Hedged items	Total income statement impact	Hedge ineffectiveness[e]	Excluded components[f]
Contract type					
Interest rate[a][b]	**$ 435**	**$ (706)**	**$ (271)**	**$ 2**	**$ (273)**
Foreign exchange[c]	**2,556**	**(2,258)**	**298**	**—**	**298**
Commodity[d]	**(81)**	**96**	**15**	**—**	**15**
Total	**$ 2,910**	**$ (2,868)**	**$ 42**	**$ 2**	**$ 40**

	Gains/(losses) recorded in income			Income statement impact due to:	
Year ended December 31, 2015 (in millions)	Derivatives	Hedged items	Total income statement impact	Hedge ineffectiveness[e]	Excluded components[f]
Contract type					
Interest rate[a][b]	$ (123)	$ (233)	$ (356)	$ 26	$ (382)
Foreign exchange[c]	6,900	(6,921)	(21)	—	(21)
Commodity[d]	600	(638)	(38)	(11)	(27)
Total	$ 7,377	$ (7,792)	$ (415)	$ 15	$ (430)

	Gains/(losses) recorded in income			Income statement impact due to:	
Year ended December 31, 2014 (in millions)	Derivatives	Hedged items	Total income statement impact	Hedge ineffectiveness[e]	Excluded components[f]
Contract type					
Interest rate[a][b]	$ (2,967)	$ 2,577	$ (390)	$ 55	$ (445)
Foreign exchange[c]	9,107	(9,434)	(327)	—	(327)
Commodity[d]	327	(149)	178	42	136
Total	$ 6,467	$ (7,006)	$ (539)	$ 97	$ (636)

(a) Primarily consists of hedges of the benchmark (e.g., London Interbank Offered Rate ("LIBOR")) interest rate risk of fixed-rate 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.

(c) Primarily consists of hedges of the foreign currency risk of 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, 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 market (market approximates fair value). Gains and losses were recorded in principal transactions revenue.

(e) Hedge ineffectiveness is the amount by which the gain or loss on the designated derivative instrument does not exactly offset the gain or loss on the hedged item attributable to the hedged risk.

(f) 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 and time values.

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 years ended December 31, 2016, 2015 and 2014, respectively. JPMorgan Chase Bank, N.A. includes the gain/(loss) on the hedging derivative and the change in cash flows on the hedged item in the same line item in the Consolidated statements of income.

	Gains/(losses) recorded in income and other comprehensive income/(loss)				
Year ended December 31, 2016 (in millions)	Derivatives – effective portion reclassified from AOCI to income	Hedge ineffectiveness recorded directly in income[c]	Total income statement impact	Derivatives – effective portion recorded in OCI	Total change in OCI for period
Contract type					
Interest rate[a]	**$ (74)**	**$ –**	**$ (74)**	**$ (55)**	**$ 19**
Foreign exchange[b]	**(286)**	**–**	**(286)**	**(394)**	**(108)**
Total	**$ (360)**	**$ –**	**$ (360)**	**$ (449)**	**$ (89)**

	Gains/(losses) recorded in income and other comprehensive income/(loss)				
Year ended December 31, 2015 (in millions)	Derivatives – effective portion reclassified from AOCI to income	Hedge ineffectiveness recorded directly in income[c]	Total income statement impact	Derivatives – effective portion recorded in OCI	Total change in OCI for period
Contract type					
Interest rate[a]	$ (93)	$ –	$ (93)	$ (44)	$ 49
Foreign exchange[b]	(81)	–	(81)	(53)	28
Total	$ (174)	$ –	$ (174)	$ (97)	$ 77

	Gains/(losses) recorded in income and other comprehensive income/(loss)				
Year ended December 31, 2014 (in millions)	Derivatives – effective portion reclassified from AOCI to income	Hedge ineffectiveness recorded directly in income[c]	Total income statement impact	Derivatives – effective portion recorded in OCI	Total change in OCI for period
Contract type					
Interest rate[a]	$ 45	$ –	$ 45	$ 192	$ 147
Foreign exchange[b]	78	–	78	(92)	(170)
Total	$ 123	$ –	$ 123	$ 100	$ (23)

(a) Primarily consists of benchmark interest rate hedges of LIBOR-indexed floating-rate assets and floating-rate liabilities. Gains and losses were recorded in net interest income, and for the forecasted transactions that JPMorgan Chase Bank, N.A. determined during the year ended December 31, 2015, were probable of not occurring, in other 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.
(c) Hedge ineffectiveness is the amount by which the cumulative gain or loss on the designated derivative instrument exceeds the present value of the cumulative expected change in cash flows on the hedged item attributable to the hedged risk.

JPMorgan Chase Bank, N.A. did not experience any forecasted transactions that failed to occur for the years ended 2016 and 2014. In 2015, JPMorgan Chase Bank, N.A. reclassified approximately $150 million of net losses from AOCI to other income because JPMorgan Chase Bank, N.A. determined that it was probable that the forecasted interest payment cash flows would not occur as a result of the planned reduction in wholesale non-operating deposits.

Over the next 12 months, JPMorgan Chase Bank, N.A. expects that approximately $151 million (after-tax) of net losses recorded in AOCI at December 31, 2016, related to cash flow hedges will be recognized in income. For terminated cash flow hedges, the maximum length of time over which forecasted transactions are remaining is approximately six years. For open cash flow hedges, the maximum length of time over which forecasted transactions are hedged is approximately one year. JPMorgan Chase Bank, N.A.'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 years ended December 31, 2016, 2015 and 2014.

	Gains/(losses) recorded in income and other comprehensive income/(loss)					
	2016		2015		2014	
Year ended December 31, (in millions)	Excluded components recorded directly in income[(a)]	Effective portion recorded in OCI	Excluded components recorded directly in income[(a)]	Effective portion recorded in OCI	Excluded components recorded directly in income[(a)]	Effective portion recorded in OCI
Foreign exchange derivatives	**$ (247)**	**$ (109)**	$ (317)	$ 1,541	$ (394)	$ 1,413

(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. Amounts related to excluded components are recorded in other income. JPMorgan Chase Bank, N.A. measures the ineffectiveness of net investment hedge accounting relationships based on changes in spot foreign currency rates, and therefore there was no significant ineffectiveness for net investment hedge accounting relationships during 2016, 2015 and 2014.

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, foreign currency denominated assets and liabilities, and commodities-related contracts and investments.

	Derivatives gains/(losses) recorded in income		
Year ended December 31, (in millions)	**2016**	2015	2014
Contract type			
Interest rate[(a)]	**$ 1,174**	$ 853	$ 2,308
Credit[(b)]	**(283)**	70	(58)
Foreign exchange[(c)]	**34**	17	(27)
Total	**$ 925**	$ 940	$ 2,223

(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 JPMorgan Chase Bank, N.A.'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.

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

JPMorgan Chase Bank, N.A. 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. See Note 8 for information on principal transactions revenue.

Credit derivatives

Credit derivatives are financial instruments whose value is derived from the credit risk associated with the debt of a third-party issuer (the reference entity) and which allow one party (the protection purchaser) to transfer that risk to another party (the protection seller). Credit derivatives expose the protection purchaser to the creditworthiness of the protection seller, as the protection seller is required to make payments under the contract when the reference entity experiences a credit event, such as a bankruptcy, a failure to pay its obligation or a restructuring. The seller of credit protection receives a premium for providing protection but has the risk that the underlying instrument referenced in the contract will be subject to a credit event.

JPMorgan Chase Bank, N.A. is both a purchaser and seller of protection in the credit derivatives market and uses these derivatives for two primary purposes. First, in its capacity as a market-maker, JPMorgan Chase Bank, N.A. actively manages a portfolio of credit derivatives by purchasing and selling credit protection, predominantly on corporate debt obligations, to meet the needs of customers. Second, as an end-user, JPMorgan Chase Bank, N.A. uses credit derivatives to manage credit risk associated with lending exposures (loans and unfunded commitments) and derivatives counterparty exposures in JPMorgan Chase Bank, N.A.'s wholesale businesses, and to manage the credit risk arising from certain financial instruments in JPMorgan Chase Bank, N.A.'s market-making businesses. Following is a summary of various types of credit derivatives.

Credit default swaps

Credit derivatives may reference the credit of either a single reference entity (“single-name”) or a broad-based index. JPMorgan Chase Bank, N.A. purchases and sells protection on both single- name and index-reference obligations. Single-name CDS and index CDS contracts are either OTC or OTC-cleared derivative contracts. Single-name CDS are used to manage the default risk of a single reference entity, while index CDS contracts are used to manage the credit risk associated with the broader credit markets or credit market segments. Like the S&P 500 and other market indices, a CDS index consists of a portfolio of CDS across many reference entities. New series of CDS indices are periodically established with a new underlying portfolio of reference entities to reflect changes in the credit markets. If one of the reference entities in the index experiences a credit event, then the reference entity that defaulted is removed from the index. CDS can also be referenced against specific portfolios of reference names or against customized exposure levels based on specific client demands: for example, to provide protection against the first $1 million of realized credit losses in a $10 million portfolio of exposure. Such structures are commonly known as tranche CDS.

For both single-name CDS contracts and index CDS contracts, upon the occurrence of a credit event, under the terms of a CDS contract neither party to the CDS contract 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 of the reference obligation at settlement of the credit derivative contract, also known as the recovery value. The protection purchaser does not need to hold the debt instrument of the underlying reference entity in order to receive amounts due under the CDS contract when a credit event occurs.

Credit-related notes

A credit-related note is a funded credit derivative where the issuer of the credit-related note purchases from the note investor credit protection on a reference entity or an index. Under the contract, the investor pays the issuer the par value of the note at the inception of the transaction, and in return, the issuer pays periodic payments to the investor, based on the credit risk of the referenced entity. The issuer also repays the investor the par value of the note at maturity unless the reference entity (or one of the entities that makes up a reference index) experiences a specified credit event. If a credit event occurs, the issuer is not obligated to repay the par value of the note, but rather, the issuer pays the investor the difference between the par value of the note and the fair value of the defaulted reference obligation at the time of settlement. Neither party to the credit-related note has recourse to the defaulting reference entity.

The following tables present a summary of the notional amounts of credit derivatives and credit-related notes JPMorgan Chase Bank, N.A. sold and purchased as of December 31, 2016 and 2015. Upon a credit event, JPMorgan Chase Bank, N.A. as a seller of protection would typically pay out only a percentage of the full notional amount of net protection sold, as the amount actually required to be paid on the contracts takes into account the recovery value of the reference obligation at the time of settlement. JPMorgan Chase Bank, N.A. manages the credit risk on contracts to sell protection by purchasing protection with identical or similar underlying reference entities. Other purchased protection referenced in the following tables includes credit derivatives bought on related, but not identical, reference positions (including indices, portfolio coverage and other reference points) as well as protection purchased through credit-related notes.

JPMorgan Chase Bank, N.A. 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 JPMorgan Chase Bank, N.A.'s view, the risks associated with such derivatives.

Total credit derivatives and credit-related notes

	Maximum payout/Notional amount			
December 31, 2016 (in millions)	Protection sold	Protection purchased with identical underlyings[(b)]	Net protection (sold)/ purchased[(c)]	Other protection purchased[(d)]
Credit derivatives				
Credit default swaps	**$ (950,474)**	**$ 962,598**	**$ 12,123**	**$ 7,935**
Other credit derivatives[(a)]	**(37,415)**	**38,671**	**1,256**	**13,179**
Total credit derivatives	**(987,889)**	**1,001,269**	**13,379**	**21,114**
Credit-related notes	**(36)**	**–**	**(36)**	**4,113**
Total	**$ (987,925)**	**$ 1,001,269**	**$ 13,343**	**$ 25,227**

	Maximum payout/Notional amount			
December 31, 2015 (in millions)	Protection sold	Protection purchased with identical underlyings[(b)]	Net protection (sold)/ purchased[(c)]	Other protection purchased[(d)]
Credit derivatives				
Credit default swaps	$ (1,382,805)	$ 1,398,627	$ 15,822	$ 12,011
Other credit derivatives[(a)]	(42,646)	42,922	276	14,028
Total credit derivatives	(1,425,451)	1,441,549	16,098	26,039
Credit-related notes	(30)	–	(30)	4,489
Total	$ (1,425,481)	$ 1,441,549	$ 16,068	$ 30,528

(a) Other credit derivatives largely consists of credit swap options.
(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 JPMorgan Chase Bank, N.A. on referenced instruments (single-name, portfolio or index) where JPMorgan Chase Bank, N.A. 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 December 31, 2016 and 2015, where JPMorgan Chase Bank, N.A. 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 Bank, N.A. is the purchaser of protection are comparable to the profile reflected below.

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

December 31, 2016 (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	**$ (274,489)**	**$ (383,580)**	**$ (34,440)**	**$ (692,509)**	**$ 7,838**	**$ (2,981)**	**$ 4,857**
Noninvestment-grade	**(107,933)**	**(170,021)**	**(17,462)**	**(295,416)**	**8,175**	**(8,255)**	**(80)**
Total	**$ (382,422)**	**$ (553,601)**	**$ (51,902)**	**$ (987,925)**	**$ 16,013**	**$ (11,236)**	**$ 4,777**

December 31, 2015 (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	$ (307,416)	$ (699,148)	$ (46,997)	$ (1,053,561)	$ 13,538	$ (6,878)	$ 6,660
Noninvestment-grade	(109,105)	(245,110)	(17,705)	(371,920)	10,946	(18,867)	(7,921)
Total	$ (416,521)	$ (944,258)	$ (64,702)	$ (1,425,481)	$ 24,484	$ (25,745)	$ (1,261)

(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 JPMorgan Chase Bank, N.A.

Note 8 – Noninterest revenue

Investment banking fees

The following table presents the components of investment banking fees.

Year ended December 31, (in millions)	2016	2015	2014
Underwriting			
Equity	$ 410	$ 517	$ 592
Debt	1,722	750	829
Total underwriting	2,132	1,267	1,421
Advisory	567	664	613
Total investment banking fees	$ 2,699	$ 1,931	$ 2,034

Underwriting fees are recognized as revenue when JPMorgan Chase Bank, N.A. has rendered all services to, and is entitled to collect the fee from, the issuer, and there are no other contingencies associated with the fee. Underwriting fees are net of syndicate expense; JPMorgan Chase Bank, N.A. recognizes credit arrangement and syndication fees as revenue after satisfying certain retention, timing and yield criteria. Advisory fees are recognized as revenue when the related services have been performed and the fee has been earned.

Principal transactions

Principal transactions revenue is driven by many factors, including the bid-offer spread, which is the difference between the price at which JPMorgan Chase Bank, N.A. is willing to buy a financial or other instrument and the price at which JPMorgan Chase Bank, N.A. is willing to sell that instrument. It also consists of the 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, JPMorgan Chase Bank, N.A. 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, foreign exchange risk and commodity risk, and (c) other derivatives. For further information on the income statement classification of gains and losses from derivatives activities, see Note 7.

In the financial commodity markets, JPMorgan Chase Bank, N.A. transacts in OTC derivatives (e.g., swaps, forwards, options) and ETD that reference a wide range of underlying commodities. In the physical commodity markets, JPMorgan Chase Bank, N.A. purchases and sells precious and base metals.

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 JPMorgan Chase Bank, N.A.'s client-driven market-making activities. See Note 9 for further information on interest income and interest expense. Trading revenue is presented primarily by instrument type. JPMorgan Chase Bank, N.A.'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.

Year ended December 31, (in millions)	2016	2015	2014
Trading revenue by instrument type			
Interest rate	$ 2,841	$ 2,782	$ 1,951
Credit	1,229	930	901
Foreign exchange	2,944	2,700	1,586
Equity	2,357	2,043	2,021
Commodity	504	610	1,182
Total trading revenue	9,875	9,065	7,641
Private equity gains	88	20	19
Principal transactions	$ 9,963	$ 9,085	$ 7,660

Lending- and deposit-related fees

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

Year ended December 31, (in millions)	2016	2015	2014
Lending-related fees	$ 1,121	$ 1,148	$ 1,305
Deposit-related fees	4,659	4,545	4,492
Total lending- and deposit-related fees	$ 5,780	$ 5,693	$ 5,797

Lending-related fees include fees earned from loan commitments, standby letters of credit, financial guarantees, and other loan-servicing activities. Deposit-related fees include fees earned in lieu of compensating balances, and fees earned from performing cash management activities and other deposit account services. Lending- and deposit-related fees in this revenue category are recognized over the period in which the related service is provided.

Asset management, administration and commissions

The following table presents JPMorgan Chase Bank, N.A. asset management, administration and commissions income:

Year ended December 31, (in millions)	2016	2015	2014
Asset management fees			
Investment management fees[a]	**$ 1,994**	$ 2,086	$ 1,981
All other asset management fees[b]	**58**	40	46
Total asset management fees	**2,052**	2,126	2,027
Total administration fees[c]	**1,914**	2,027	2,198
Commissions and other fees			
Brokerage commissions	**982**	1,033	1,219
All other commissions and fees[d]	**6,185**	6,077	6,208
Total commissions and fees	**7,167**	7,110	7,427
Total asset management, administration and commissions	**$ 11,133**	$ 11,263	$ 11,652

(a) Represents fees earned from managing assets on behalf of JPMorgan Chase Bank, N.A.'s clients, including investors in JPMorgan Chase Bank, N.A. 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.
(d) Includes fees earned by JPMorgan Chase Bank, N.A. for shared services provided to related party affiliates of $4.1 billion, $4.1 billion and $3.9 billion for the years ended December 31, 2016, 2015 and 2014, respectively.

This revenue category includes fees from investment management and related services, custody and brokerage services, and fees from other products and services. These fees are recognized over the period in which the related product or service is provided. JPMorgan Chase Bank, N.A. has contractual arrangements with third parties to provide certain services in connection with its asset management activities. Amounts paid to third-party service providers are predominantly expensed, such that asset management fees are recorded gross of payments made to third parties.

In addition, this revenue category includes fees earned by JPMorgan Chase Bank, N.A. for providing operational support and services to JPMorgan Chase and its subsidiaries. See Note 22 for further information on related party transactions.

Mortgage fees and related income

This revenue category primarily reflects the consumer & community banking business's mortgage banking production and servicing revenue, including fees and income derived from mortgages originated with the intent to sell; mortgage sales and servicing including losses related to the repurchase of previously sold loans; the impact of risk-management activities associated with the mortgage pipeline, warehouse loans and MSRs; and revenue related to any residual interests held from mortgage securitizations. This revenue category also includes gains and losses on sales and lower of cost or fair value adjustments for mortgage loans held-for-sale, as well as changes in fair value for mortgage loans originated with the intent to sell and measured at fair value under the fair value option. Changes in the fair value of MSRs are reported in mortgage fees and related income. For a further discussion of MSRs, see Note 18. Net interest income from mortgage loans is recorded in interest income.

Card income

This revenue category includes interchange income from credit and debit cards and net fees earned from processing card transactions for merchants. Card income is recognized as earned. Costs related to rewards programs are recorded when the rewards are earned by the customer and presented as a reduction to interchange income. Annual fees and direct loan origination costs are deferred and recognized on a straight-line basis over a 12-month period. The card income earned by JPMorgan Chase Bank, N.A. results from activity in Commerce Solutions and from a participation arrangement with a bank affiliate of JPMorgan Chase Bank, N.A.

Other income

Other income on JPMorgan Chase Bank, N.A.'s Consolidated statements of income included the following:

Year ended December 31, (in millions)	2016	2015	2014
Operating lease income	**$ 2,714**	$ 2,075	$ 1,698

Operating lease income is recognized on a straight-line basis over the lease term.

Note 9 – Interest income and Interest expense

Interest income and interest expense are recorded in the Consolidated statements of income and classified based on the nature of the underlying asset or liability.

The following table presents the components of interest income and interest expense:

Year ended December 31, (in millions)	2016	2015	2014
Interest income			
Loans[a]	**$26,506**	$22,925	$21,898
Taxable securities	**5,519**	6,522	7,569
Non-taxable securities[b]	**1,632**	1,562	1,273
Total securities	**7,151**	8,084	8,842
Trading assets	**4,578**	4,097	4,714
Federal funds sold and securities purchased under resale agreements	**1,370**	960	1,171
Securities borrowed[c]	**2**	(10)	39
Deposits with banks	**1,753**	1,176	1,099
Other assets	**224**	193	203
Total interest income	**41,584**	37,425	37,966
Interest expense			
Interest-bearing deposits	**1,744**	1,409	1,802
Federal funds purchased and securities loaned or sold under repurchase agreements	**408**	253	396
Trading liabilities - debt, short-term and other liabilities	**1,295**	1,311	1,274
Long-term debt	**1,091**	682	684
Beneficial interests issued by consolidated VIEs	**104**	81	73
Total interest expense	**4,642**	3,736	4,229
Net interest income	**36,942**	33,689	33,737
Provision for credit losses	**2,486**	1,376	832
Net interest income after provision for credit losses	**$34,456**	$32,313	$32,905

(a) Includes the amortization of purchase price discounts or premiums, as well as net deferred loan fees or costs.
(b) Represents securities that are tax exempt for U.S. federal income tax purposes.
(c) Securities borrowed's negative interest income, for the year ended December 31, 2015, is a result of client-driven demand for certain securities combined with the impact of low interest rates; this is matched book activity and the negative interest expense on the corresponding securities loaned is recognized in interest expense.

Interest income and interest expense includes the current-period interest accruals for financial instruments measured at fair value, except for derivatives and financial instruments containing embedded derivatives that would be separately accounted for in accordance with U.S. GAAP, absent the fair value option election; for those instruments, all changes in fair value including any interest elements, are reported in principal transactions revenue. For financial instruments that are not measured at fair value, the related interest is included within interest income or interest expense, as applicable.

Note 10 – Pension and other postretirement employee benefit plans

JPMorgan Chase Bank, N.A. has various defined benefit pension plans and other postretirement employee benefit ("OPEB") plans that provide benefits to its employees. These plans are discussed below.

Defined benefit pension and OPEB plans
Substantially all of JPMorgan Chase Bank, N.A.'s U.S. employees are provided benefits through JPMorgan Chase's qualified noncontributory, U.S. defined benefit pension plan. JPMorgan Chase Bank, N.A. also offers benefits through defined benefit pension plans to qualifying employees in certain non-U.S. locations. In addition, JPMorgan Chase Bank, N.A. offers postretirement medical and life insurance benefits to certain retirees and postretirement medical benefits to qualifying U.S. employees through JPMorgan Chase plans. These JPMorgan Chase plans are discussed in the JPMorgan Chase defined benefit pension and OPEB plans section on page 64 of this Note.

JPMorgan Chase Bank, N.A. also offers certain qualifying employees in the U.S. the ability to participate in a number of defined benefit pension plans that are not subject to Title IV of the Employee Retirement Income Security Act. One of the most significant of these plans is the U.S. Excess Retirement Plan, pursuant to which certain employees previously earned pay credits on compensation amounts above the maximum stipulated by law under a qualified plan; no further pay credits are allocated under this plan. The U.S. Excess Retirement Plan had an unfunded projected benefit obligation ("PBO") in the amount of $19 million and $22 million, at December 31, 2016 and 2015, respectively.

It is JPMorgan Chase Bank, N.A.'s policy to fund the pension plans in amounts sufficient to meet the requirements under applicable laws. In 2017, the cost of funding benefits under the U.S. Excess Retirement Plan is expected to be $2 million. The 2017 contributions to the non-U.S. defined benefit pension plans are expected to be $44 million of which $28 million are contractually required.

Defined contribution plans
JPMorgan Chase Bank, N.A.'s employees may also participate in one of the two qualified defined contribution plans offered by JPMorgan Chase in the U.S. and other similar arrangements offered by JPMorgan Chase Bank, N.A. in certain non-U.S. locations, all of which are administered in accordance with applicable local laws and regulations. The most significant of these plans is the JPMorgan Chase 401(k) Savings Plan (the "401(k) Savings Plan"), which covers substantially all U.S. employees. Employees can contribute to the 401(k) Savings Plan on a pretax and/or Roth 401(k) after-tax basis. The JPMorgan Chase Common Stock Fund, which is an investment option under the 401(k) Savings Plan, is a nonleveraged employee stock ownership plan.

JPMorgan Chase Bank, N.A. matches eligible employee contributions up to 5% of eligible compensation (generally base salary/regular pay and variable cash incentive compensation) on an annual basis. Employees begin to receive matching contributions after completing a one-year-of-service requirement. Employees with total annual cash compensation of $250,000 or more are not eligible for matching contributions. Matching contributions vest after three years of service. The 401(k) Savings Plan also permits discretionary profit-sharing contributions by participating companies for certain employees, subject to a specified vesting schedule.

The following table presents the changes in benefit obligations, plan assets and funded status amounts reported on the Consolidated balance sheets for JPMorgan Chase Bank, N.A.'s significant defined benefit pension plans.

As of or for the year ended December 31,	Defined benefit pension plans			
	U.S.		Non-U.S.	
(in millions)	**2016**	2015	**2016**	2015
Change in benefit obligation				
Benefit obligation, beginning of year	**$ (118)**	$ (426)	**$ (3,344)**	$ (3,632)
Benefits earned during the year	**(1)**	(2)	**(35)**	(36)
Interest cost on benefit obligations	**(5)**	(5)	**(99)**	(111)
Employee contributions	**NA**	NA	**(7)**	(7)
Net gain/(loss)	**—**	9	**(540)**	146
Benefits paid	**6**	6	**126**	120
Special termination benefits	**—**	—	**—**	(1)
Plan settlements	**—**	—	**21**	—
Foreign exchange impact and other	**5**	300	**501**	177
Benefit obligation, end of year	**$ (113)**	$ (118)	**$ (3,377)**	$ (3,344)
Change in plan assets				
Fair value of plan assets, beginning of year	**$ —**	$ —	**$ 3,511**	$ 3,718
Actual return on plan assets	**—**	—	**537**	52
JPMorgan Chase Bank, N.A. contributions	**6**	6	**52**	45
Employee contributions	**—**	—	**7**	7
Benefits paid	**(6)**	(6)	**(126)**	(120)
Plan settlements	**—**	—	**(21)**	—
Foreign exchange impact and other	**—**	—	**(529)**	(191)
Fair value of plan assets, end of year	**$ —**	$ —	**$ 3,431**	$ 3,511
Net (unfunded)/funded status[(a)]	**$ (113)**	$ (118)	**$ 54**	$ 167
Accumulated benefit obligation, end of year	**$ (113)**	$ (118)	**$ (3,377)**	$ (3,344)

(a) Represents plans with an aggregate underfunded balance of $263 million and $251 million at December 31, 2016 and 2015, respectively, and plans with an aggregate overfunded balance of $204 million and $300 million at December 31, 2016 and 2015, respectively.

Gains and losses

For JPMorgan Chase Bank, N.A.'s defined benefit pension plans, fair value is used to determine the expected return on plan assets. Amortization of net gains and losses is included in annual net periodic benefit cost if, as of the beginning of the year, the net gain or loss exceeds 10% of the greater of the PBO or the fair value of the plan assets. Any excess is amortized over the average future service period of defined benefit pension plan participants, which for the U.S. Excess Retirement Plan is currently six years and for the non-U.S. defined benefit pension plans is the period appropriate for the affected plan. In addition, prior service costs are amortized over the average remaining service period of active employees expected to receive benefits under the plan when the prior service cost is first recognized.

The following table presents pretax pension amounts recorded in AOCI related to JPMorgan Chase Bank, N.A.'s significant defined benefit pension plans.

December 31, (in millions)	Defined benefit pension plans			
	U.S.		Non-U.S.	
	2016	2015	**2016**	2015
Net gain/(loss)	**$ (24)**	$ (28)	**$ (543)**	$ (509)
Prior service credit/(cost)	**–**	–	**8**	10
Accumulated other comprehensive income/(loss), pretax, end of year	**$ (24)**	$ (28)	**$ (535)**	$ (499)

The following table presents the components of net periodic benefit costs reported in the Consolidated statements of income and other comprehensive income for JPMorgan Chase Bank, N.A.'s significant defined benefit pension and defined contribution plans.

Year ended December 31, (in millions)	Pension plans					
	U.S.			Non-U.S.		
	2016	2015	2014	**2016**	2015	2014
Components of net periodic benefit cost						
Benefits earned during the year	**$ 1**	$ 2	$ 4	**$ 35**	$ 36	$ 31
Interest cost on benefit obligations	**5**	5	17	**99**	111	129
Expected return on plan assets	**–**	–	–	**(139)**	(150)	(172)
Amortization:						
Net (gain)/loss	**3**	5	7	**22**	35	46
Prior service cost/(credit)	**–**	–	–	**(2)**	(2)	(2)
Special termination benefits	**–**	–	–	**–**	1	–
Settlement loss	**–**	–	–	**4**	–	–
Net periodic defined benefit cost	**9**	12	28	**19**	31	32
Other defined benefit pension plans[a]	**13**	14	14	**2**	4	2
Total defined benefit plans	**22**	26	42	**21**	35	34
Total defined contribution plans	**408**	390	364	**268**	277	282
Total pension and OPEB cost included in compensation expense	**$ 430**	$ 416	$ 406	**$ 289**	$ 312	$ 316
Changes in plan assets and benefit obligations recognized in other comprehensive income						
Net (gain)/loss arising during the year	**$ –**	$ (9)	$ 71	**$ 139**	$ (45)	$ 51
Prior service credit arising during the year	**–**	–	–	**–**	–	–
Amortization of net loss	**(3)**	(5)	(7)	**(22)**	(35)	(46)
Amortization of prior service (cost)/credit	**–**	–	–	**2**	2	2
Settlement loss	**–**	–	–	**(4)**	–	–
Foreign exchange impact and other	**(1)**	(100)	(1)	**(79)** [a]	(32) [a]	(35) [a]
Total recognized in other comprehensive income	**$ (4)**	$ (114)	$ 63	**$ 36**	$ (110)	$ (28)
Total recognized in net periodic benefit cost and other comprehensive income	**$ 5**	$ (102)	$ 91	**$ 55**	$ (79)	$ 4

(a) Includes various defined benefit pension plans which are individually immaterial.

It is expected that $28 million and $2 million, pretax, of net loss and prior service credit, respectively, related to non-U.S. defined benefit pension plans and $3 million, pretax, of net loss related to U.S. defined benefit pension plans, recorded in AOCI at December 31, 2016, will be recognized in earnings during 2017.

The following table presents the actual rate of return on plan assets for the non-U.S. defined benefit pension plans.

Year ended December 31,	**2016**	2015	2014
Actual rate of return	**1.07 – 20.60%**	(0.48) – 4.92%	5.62 – 17.69%

Plan assumptions

For the U.K. defined benefit pension plans, which represent the most significant of JPMorgan Chase Bank, N.A.'s non-U.S. defined benefit pension plans, procedures are used to develop the expected long-term rate of return on plan assets, taking into consideration local market conditions and the specific allocation of plan assets. The expected long-term rate of return on U.K. plan assets is an average of projected long-term returns for each asset class. The return on equities has been selected by reference to the yield on long-term U.K. government bonds plus an equity risk premium above the risk-free rate. The expected return on "AA" rated long-term corporate bonds is based on an implied yield for similar bonds.

The discount rate used in determining the benefit obligation under the U.S. Excess Retirement Plan was provided by JPMorgan Chase Bank, N.A.'s actuaries. This rate was selected by reference to the yields on portfolios of bonds with maturity dates and coupons that closely match the plan's projected cash flows; such portfolios are derived from a broad-based universe of high-quality corporate bonds as of the measurement date. In years in which these hypothetical bond portfolios generate excess cash, such excess is assumed to be reinvested at the one-year forward rates implied by the Mercer Yield Curve published as of the measurement date. The discount rate for the U.K. defined benefit pension plan represents a rate of appropriate duration from the analysis of yield curves provided by JPMorgan Chase Bank, N.A.'s actuaries.

At December 31, 2016, JPMorgan Chase Bank, N.A. decreased the discount rate used to determine its benefit obligation for the U.S. Excess Retirement Plan in light of current market interest rates, which will result in an immaterial increase in expense for 2017. As of December 31, 2016, the interest crediting rate assumption remained at 5.00%.

The following tables present the weighted-average annualized actuarial assumptions for the PBO and the components of net periodic benefit costs, for JPMorgan Chase Bank, N.A.'s significant defined benefit pension plans, as of and for the periods indicated.

Weighted-average assumptions used to determine benefit obligations

	U.S.		Non-U.S.	
December 31,	**2016**	2015	**2016**	2015
Discount rate	**4.30%**	4.50%	**0.60 – 2.60%**	0.80 – 3.70%
Rate of compensation increase	**NA**	NA	**2.25 – 3.00**	2.25 – 4.30

Weighted-average assumptions used to determine net periodic benefit costs

	U.S.			Non-U.S.		
Year ended December 31,	**2016**	2015	2014	**2016**	2015	2014
Discount rate	**4.50%**	4.00%	5.00%	**0.90 – 3.70%**	1.00 – 3.60%	1.10 – 4.40%
Expected long-term rate of return on plan assets	**NA**	NA	NA	**0.80 – 4.60**	0.90 – 4.80	1.20 – 5.30
Rate of compensation increase	**NA**	NA	NA	**2.25 – 4.30**	2.75 – 4.20	2.75 – 4.60

JPMorgan Chase Bank, N.A.'s U.S. and non-U.S. defined benefit pension plans expense is sensitive to the discount rate. A 25-basis point decline in the discount rate for the U.S. Excess Retirement Plan would result in an immaterial increase in 2017 for both the U.S. defined benefit pension expense and the related PBO. A 25-basis point decrease in the interest crediting rate for the U.S. Excess Retirement Plan would result in an immaterial decrease in 2017 for both the U.S. defined benefit pension expense and the related PBO. A 25-basis point decline in the discount rates for the non-U.S. plans would result in an increase in the 2017 non-U.S. defined benefit pension plan expense of approximately $12 million.

Investment strategy and asset allocation

The investment policy for the U.K. defined benefit pension plans, which represent the most significant of the non-U.S. defined benefit pension plans, is to maximize returns subject to an appropriate level of risk relative to the plans' liabilities. To reduce the volatility in returns relative to the plans' liability profiles, the U.K. defined benefit pension plans' largest asset allocations are to debt securities of appropriate durations. Other assets, mainly equity securities, are then invested for capital appreciation, to provide long-term investment growth. Asset allocations and asset managers for the U.K. defined benefit pension plans are reviewed regularly and the portfolios are rebalanced when deemed necessary.

As of December 31, 2016, assets held by JPMorgan Chase Bank, N.A.'s non-U.S. defined benefit pension plans do not include JPMorgan Chase common stock, except through indirect exposures through investments in third-party stock-index funds. The non-U.S. plans hold investments in funds that are sponsored or managed by affiliates of JPMorgan Chase Bank, N.A. in the amount of $1.2 billion and $1.2 billion as of December 31, 2016 and 2015, respectively.

The following table presents the weighted-average asset allocation of the fair values of total plan assets at December 31 for the years indicated, as well as the respective approved target allocation by asset category, for JPMorgan Chase Bank, N.A.'s non-U.S. defined benefit pension plans.

December 31,	Target Allocation	% of plan assets 2016	% of plan assets 2015
Asset category			
Debt securities[(a)]	59%	**60%**	60%
Equity securities	40	**39**	38
Real Estate	–	**–**	1
Alternatives	1	**1**	1
Total	100%	**100%**	100%

(a) Debt securities primarily include corporate debt and non-U.S. government debt securities.

Fair value measurement of the plans' assets and liabilities

For information on fair value measurements, including descriptions of level 1 and 2 of the fair value hierarchy and the valuation methods employed by JPMorgan Chase Bank, N.A., see Note 4.

Pension and OPEB plan assets and liabilities measured at fair value

	Non-U.S. defined benefit pension plans[(d)]					
	2016			2015		
December 31, (in millions)	Level 1	Level 2	Total fair value	Level 1	Level 2	Total fair value
Cash and cash equivalents	**$ 122**	**$ 2**	**$ 124**	$ 114	$ 1	$ 115
Equity securities	**980**	**154**	**1,134**	1,002	157	1,159
Common/collective trust funds	**118**	**–**	**118**	135	–	135
Corporate debt securities[(a)]	**–**	**715**	**715**	–	758	758
Non-U.S. government debt securities	**213**	**570**	**783**	212	504	716
Mortgage-backed securities	**3**	**10**	**13**	2	26	28
Derivative receivables	**–**	**219**	**219**	–	209	209
Other[(b)]	**223**	**53**	**276**	257	53	310
Total assets measured at fair value[(c)]	**$ 1,659**	**$ 1,723**	**$ 3,382**	$ 1,722	$ 1,708	$ 3,430
Derivative payables	**$ –**	**$ (194)**	**$ (194)**	$ –	$ (153)	$ (153)
Total liabilities measured at fair value	**$ –**	**$ (194)**	**$ (194)**	$ –	$ (153)	$ (153)

(a) Corporate debt securities include debt securities of U.S. and non-U.S. corporations.
(b) Other consists primarily of money markets and insurance contracts. Money markets are primarily classified within level 1 of the fair value hierarchy given they are valued using observable market prices. Insurance contracts are guaranteed return investments subject to the credit risk of the insurance company and are classified in level 2 of the valuation hierarchy.
(c) 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 December 31, 2016 and 2015, the fair values of these investments, which include certain common/collective trust funds, were $243 million and $234 million, respectively, of non-U.S. defined benefit pension plan investments.
(d) There were zero assets or liabilities classified as level 3 for the non-U.S. defined benefit pension plans as of December 31, 2016 and 2015.

Estimated future benefit payments

The following table presents benefit payments expected to be paid, which include the effect of expected future service, for the years indicated.

Year ended December 31, (in millions)	U.S. defined benefit pension plans	Non-U.S. defined benefit pension plans
2017	$ 7	$ 103
2018	7	104
2019	7	107
2020	7	113
2021	7	117
Years 2022–2026	37	646

JPMorgan Chase defined benefit pension and OPEB plans

JPMorgan Chase Bank, N.A.'s U.S. employees are eligible to participate in JPMorgan Chase's U.S. qualified noncontributory defined benefit pension plan. In addition, qualifying U.S. employees may receive postretirement medical and life insurance benefits that are provided through JPMorgan Chase's U.S. OPEB plan. Benefits vary with length of service and date of hire and provide for limits on JPMorgan Chase Bank, N.A.'s share of covered medical benefits. The medical and life insurance benefits are both contributory. Defined benefit pension expense and postretirement medical benefit expense are determined based upon employee participation in the JPMorgan Chase plans and effected through an intercompany charge from JPMorgan Chase, which is cash settled monthly.

JPMorgan Chase Bank, N.A. was charged $180 million, $194 million and $666 million in 2016, 2015 and 2014, respectively, for its share of the U.S. qualified defined benefit pension plan expense; and it was charged $1 million for each of the years 2016, 2015 and 2014, for its share of the U.S. OPEB plan expense.

Consolidated disclosures of information about the defined benefit pension and OPEB plans of JPMorgan Chase, including the funded status of the plans, components of benefit cost and weighted-average actuarial assumptions are included in Note 9 on pages 189–196 of the 2016 Form 10-K.

Note 11 – Employee stock-based incentives

Employee stock-based awards

JPMorgan Chase Bank, N.A.'s employees receive annual incentive compensation based on their performance, the performance of their business and JPMorgan Chase's consolidated operating results. JPMorgan Chase Bank, N.A.'s employees participate, to the extent they meet minimum eligibility requirements, in various stock-based incentive plans sponsored by JPMorgan Chase. For additional information regarding JPMorgan Chase's employee stock-based incentives, see Note 10 on pages 197–198 of the 2016 Form 10-K.

In 2016, 2015 and 2014, JPMorgan Chase granted long-term stock-based awards to certain employees under its Long-Term Incentive Plan ("LTIP"), as amended and restated effective May 19, 2015. Under the terms of the LTIP, as of December 31, 2016, 78 million shares of JPMorgan Chase's common stock were available for issuance through May 2019. The LTIP is the only active plan under which JPMorgan Chase is currently granting stock-based incentive awards. In the following discussion, the LTIP, plus prior JPMorgan Chase plans and plans assumed as the result of acquisitions, are referred to collectively as the "LTI Plans," and such plans constitute JPMorgan Chase's stock-based incentive plans.

Restricted stock units ("RSUs") are awarded at no cost to the recipient upon their grant. Generally, RSUs are granted annually and vest at a rate of 50% after two years and 50% after three years and are converted into shares of common stock as of the vesting date. In addition, RSUs typically include full-career eligibility provisions, which allow employees to continue to vest upon voluntary termination, subject to post-employment and other restrictions based on age or service-related requirements. All RSU awards are subject to forfeiture until vested and contain clawback provisions that may result in cancellation under certain specified circumstances. RSUs entitle the recipient to receive cash payments equivalent to any dividends paid on the underlying common stock during the period the RSUs are outstanding and, as such, are considered participating securities as discussed in Note 24 on page 248 of the 2016 Form 10-K.

In January 2016, JPMorgan Chase's Board of Directors approved the grant of performance share units ("PSUs") to members of JPMorgan Chase's Operating Committee under the variable compensation program for performance year 2015. PSUs are subject to JPMorgan Chase's achievement of specified performance criteria over a three-year period. The number of awards that vest can range from zero to 150% of the grant amount. The awards vest and are converted into shares of common stock in the quarter after the end of the three-year performance period. In addition, dividends are notionally reinvested in JPMorgan Chase's common stock and will be delivered only in respect of any earned shares.

Once the PSUs have vested, the shares of common stock that are delivered, after applicable tax withholding, must be held for an additional two-year period, for a total combined vesting and holding period of five years from the grant date.

Under the LTI Plans, stock options and stock appreciation rights ("SARs") have generally been granted with an exercise price equal to the fair value of JPMorgan Chase's common stock on the grant date. JPMorgan Chase periodically grants employee stock options to individual employees. There were no material grants of stock options or SARs in 2016, 2015 and 2014. SARs generally expire ten years after the grant date.

JPMorgan Chase Bank, N.A. separately recognizes compensation expense for each tranche of each award, net of estimated forfeitures, as if it were a separate award with its own vesting date. Generally, for each tranche granted, compensation expense is recognized on a straight-line basis from the grant date until the vesting date of the respective tranche, provided that the employees will not become full-career eligible during the vesting period. For awards with full-career eligibility provisions and awards granted with no future substantive service requirement, JPMorgan Chase Bank, N.A. accrues the estimated value of awards expected to be awarded to employees as of the grant date without giving consideration to the impact of post-employment restrictions. For each tranche granted to employees who will become full-career eligible during the vesting period, compensation expense is recognized on a straight-line basis from the grant date until the earlier of the employee's full-career eligibility date or the vesting date of the respective tranche.

In January 2008, JPMorgan Chase awarded to its Chairman and Chief Executive Officer up to 2 million SARs. The terms of this award are distinct from, and more restrictive than, other equity grants regularly awarded by JPMorgan Chase. On July 15, 2014, the Compensation & Management Development Committee and Board of Directors of JPMorgan Chase determined that all requirements for the vesting of the 2 million SAR awards had been met and thus, the awards became exercisable.

The SARs, which will expire in January 2018, have an exercise price of $39.83 (the price of JPMorgan Chase common stock on the date of grant). The expense related to this award was dependent on changes in fair value of the SARs through July 15, 2014 (the date when the vested number of SARs were determined), and the cumulative expense was recognized ratably over the service period, which was initially assumed to be five years but, effective in the first quarter of 2013, was extended to six and one-half years. JPMorgan Chase Bank, N.A. recognized $3 million in compensation expense in 2014 for this award.

RSUs, PSUs, employee stock options and SARs activity

Compensation expense for RSUs and PSUs is measured based on the number of units granted multiplied by the stock price at the grant date, and for employee stock options and SARs, is measured at the grant date using the Black-Scholes valuation model. Compensation expense for these awards is recognized in net income as described previously. The following table summarizes JPMorgan Chase Bank, N.A.'s RSUs, PSUs, employee stock options and SARs activity for 2016.

Year ended December 31, 2016 (in thousands, except weighted-average data, and where otherwise stated)	RSUs/PSUs Number of units	RSUs/PSUs Weighted-average grant date fair value	Options/SARs Number of awards	Options/SARs Weighted-average exercise price	Options/SARs Weighted-average remaining contractual life (in years)	Options/SARs Aggregate intrinsic value
Outstanding, January 1	56,697	$ 54.60	34,634	$ 41.83		
Granted	26,278	57.92	64	71.51		
Exercised or vested	(25,484)	52.12	(10,364)	41.46		
Forfeited	(2,522)	56.39	(220)	44.45		
Canceled	NA	NA	(81)	441.41		
Transferred	1,899	54.60	942	41.83		
Outstanding, December 31	56,868	$ 57.20	24,975	$ 40.71	3.9	$ 1,133,889
Exercisable, December 31	NA	NA	20,288	40.08	3.6	934,189

The total fair value of RSUs that vested during the years ended December 31, 2016, 2015 and 2014, was $1.5 billion, $1.9 billion and $2.1 billion, respectively. The total intrinsic value of options exercised during the years ended December 31, 2016, 2015 and 2014, was $278 million, $284 million and $444 million, respectively.

Compensation expense

JPMorgan Chase Bank, N.A. recognized the following compensation expense related to its various employee stock-based incentive plans in its Consolidated statements of income.

Year ended December 31, (in millions)	**2016**	2015	2014
Cost of prior grants of RSUs, PSUs and SARs that are amortized over their applicable vesting periods	**$ 705**	$ 730	$ 905
Accrual of estimated costs of stock-based awards to be granted in future periods including those to full-career eligible employees	**627**	597	568
Total noncash compensation expense related to employee stock-based incentive plans	**$ 1,332**	$ 1,327	$ 1,473

At December 31, 2016, approximately $512 million (pretax) of compensation expense related to unvested awards had not yet been charged to net income. That cost is expected to be amortized into compensation expense over a weighted-average period of 1.1 years. JPMorgan Chase Bank, N.A. does not capitalize any compensation expense related to share-based compensation awards to employees.

Tax benefits

Effective January 1, 2016, JPMorgan Chase adopted new accounting guidance related to employee share-based payments. As a result of the adoption of this new guidance, JPMorgan Chase Bank, N.A. is recognizing its share of excess tax benefits (including tax benefits from dividends or dividend equivalents) on share-based payment awards within income tax expense in the Consolidated statements of income. Income tax benefits related to stock-based incentive arrangements recognized in JPMorgan Chase Bank, N.A.'s Consolidated statements of income for the years ended December 31, 2016, 2015 and 2014, were $626 million, $498 million and $575 million, respectively.

Note 12 – Noninterest expense

For details on noninterest expense, see Consolidated statements of income on page 2. Included within other expense are the following:

Year ended December 31, (in millions)	2016	2015	2014
Legal (benefit)/expense	**$ (289)**	$ 2,035	$ 2,262
Federal Deposit Insurance Corporation ("FDIC")-related expense	**1,217**	1,157	970

Note 13 – Securities

Securities are classified as trading, AFS or HTM. Securities classified as trading assets are discussed in Note 4. Predominantly all of JPMorgan Chase Bank, N.A.'s AFS and HTM investment securities (the "investment securities portfolio") are held by Treasury and CIO in connection with its asset-liability management objectives. At December 31, 2016, 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). AFS securities are carried at fair value on the Consolidated balance sheets. Unrealized gains and losses, after any applicable hedge accounting adjustments, are reported as net increases or decreases to AOCI. The specific identification method is used to determine realized gains and losses on AFS securities, which are included in securities gains/(losses) on the Consolidated statements of income. HTM debt securities, which management has the intent and ability to hold until maturity, are carried at amortized cost on the Consolidated balance sheets. For both AFS and HTM debt securities, purchase discounts or premiums are generally amortized into interest income over the contractual life of the security.

During 2016, JPMorgan Chase Bank, N.A. transferred commercial MBS and obligations of U.S. states and municipalities with a fair value of $7.5 billion from AFS to HTM. These securities were transferred at fair value. AOCI included net pretax unrealized gains of $78 million on the securities at the date of transfer. The transfers reflect JPMorgan Chase Bank, N.A.'s intent to hold the securities to maturity in order to reduce the impact of price volatility on AOCI. This transfer was a non-cash transaction.

The amortized costs and estimated fair values of the investment securities portfolio were as follows for the dates indicated.

	2016				2015			
December 31, (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 debt securities								
Mortgage-backed securities:								
U.S. government agencies[(a)]	**$ 63,367**	**$ 1,112**	**$ 474**	**$ 64,005**	$ 53,689	$ 1,483	$ 106	$ 55,066
Residential:								
Prime and Alt-A[(b)]	**4,256**	**38**	**22**	**4,272**	6,594	38	49	6,583
Subprime[(b)]	**3,915**	**62**	**6**	**3,971**	1,078	9	8	1,079
Non-U.S.	**6,049**	**158**	**7**	**6,200**	19,629	341	13	19,957
Commercial	**8,602**	**108**	**19**	**8,691**	22,424	134	242	22,316
Total mortgage-backed securities	**86,189**	**1,478**	**528**	**87,139**	103,414	2,005	418	105,001
U.S. Treasury and government agencies[(a)]	**44,822**	**75**	**796**	**44,101**	11,202	–	166	11,036
Obligations of U.S. states and municipalities	**27,769**	**1,311**	**183**	**28,897**	28,467	1,960	22	30,405
Certificates of deposit	**106**	**–**	**–**	**106**	282	1	–	283
Non-U.S. government debt securities	**34,497**	**836**	**45**	**35,288**	35,852	853	41	36,664
Corporate debt securities	**4,916**	**64**	**22**	**4,958**	12,464	142	170	12,436
Asset-backed securities:								
Collateralized loan obligations	**27,352**	**75**	**26**	**27,401**	31,146	52	191	31,007
Other	**6,913**	**59**	**46**	**6,926**	9,088	66	100	9,054
Total available-for-sale debt securities	**232,564**	**3,898**	**1,646**	**234,816**	231,915	5,079	1,108	235,886
Available-for-sale equity securities	**42**	**12**	**–**	**54**	58	11	–	69
Total available-for-sale securities	**$ 232,606**	**$ 3,910**	**$ 1,646**	**$ 234,870**	$ 231,973	$ 5,090	$ 1,108	$ 235,955
Held-to-maturity debt securities								
Mortgage-backed securities:								
U.S. government agencies[(c)]	**29,910**	**638**	**37**	**30,511**	36,271	852	42	37,081
Commercial	**5,783**	**–**	**129**	**5,654**	–	–	–	–
Total mortgage-backed securities	**35,693**	**638**	**166**	**36,165**	36,271	852	42	37,081
Obligations of U.S. states and municipalities	**14,475**	**374**	**125**	**14,724**	12,802	708	4	13,506
Total held-to-maturity securities	**50,168**	**1,012**	**291**	**50,889**	49,073	1,560	46	50,587
Total securities	**$ 282,774**	**$ 4,922**	**$ 1,937**	**$ 285,759**	$ 281,046	$ 6,650	$ 1,154	$ 286,542

(a) Includes total U.S. government-sponsored enterprise obligations with fair values of $45.8 billion and $42.3 billion at December 31, 2016 and 2015, respectively, which were predominantly mortgage-related.
(b) Prior period amounts have been revised to conform with the current period presentation.
(c) Included total U S. government-sponsored enterprise obligations with amortized cost of $25.6 billion and $30.8 billion at December 31, 2016 and 2015, respectively, which were mortgage-related.

Securities impairment

The following tables present the fair value and gross unrealized losses for the investment securities portfolio by aging category at December 31, 2016 and 2015.

	Securities with gross unrealized losses					
	Less than 12 months		12 months or more			
December 31, 2016 (in millions)	Fair value	Gross unrealized losses	Fair value	Gross unrealized losses	Total fair value	Total gross unrealized losses
Available-for-sale debt securities						
Mortgage-backed securities:						
U.S. government agencies	$ 29,856	$ 463	$ 506	$ 11	$ 30,362	$ 474
Residential:						
Prime and Alt-A	977	2	1,018	20	1,995	22
Subprime	396	4	55	2	451	6
Non-U.S.	–	–	886	7	886	7
Commercial	2,328	16	1,056	3	3,384	19
Total mortgage-backed securities	33,557	485	3,521	43	37,078	528
U.S. Treasury and government agencies	23,543	796	–	–	23,543	796
Obligations of U.S. states and municipalities	7,147	180	55	3	7,202	183
Certificates of deposit	–	–	–	–	–	–
Non-U.S. government debt securities	4,436	36	421	9	4,857	45
Corporate debt securities	797	2	829	20	1,626	22
Asset-backed securities:						
Collateralized loan obligations	766	2	5,263	24	6,029	26
Other	739	6	1,992	40	2,731	46
Total available-for-sale debt securities	70,985	1,507	12,081	139	83,066	1,646
Available-for-sale equity securities	–	–	–	–	–	–
Held-to-maturity debt securities						
Mortgage-backed securities:						
U.S. government agencies	3,129	37	–	–	3,129	37
Commercial	5,163	114	441	15	5,604	129
Total mortgage-backed securities	8,292	151	441	15	8,733	166
Obligations of U.S. states and municipalities	4,702	125	–	–	4,702	125
Total held-to-maturity securities	12,994	276	441	15	13,435	291
Total securities with gross unrealized losses	$ 83,979	$ 1,783	$ 12,522	$ 154	$ 96,501	$ 1,937

	Securities with gross unrealized losses					
	Less than 12 months		12 months or more			
December 31, 2015 (in millions)	Fair value	Gross unrealized losses	Fair value	Gross unrealized losses	Total fair value	Total gross unrealized losses
Available-for-sale debt securities						
Mortgage-backed securities:						
U.S. government agencies	$ 13,002	$ 95	$ 697	$ 11	$ 13,699	$ 106
Residential:						
Prime and Alt-A[(a)]	4,455	44	239	5	4,694	49
Subprime[(a)]	692	8	–	–	692	8
Non-U.S.	2,021	12	167	1	2,188	13
Commercial	13,703	238	658	4	14,361	242
Total mortgage-backed securities	33,873	397	1,761	21	35,634	418
U.S. Treasury and government agencies	10,998	166	–	–	10,998	166
Obligations of U.S. states and municipalities	1,537	17	205	5	1,742	22
Certificates of deposit	–	–	–	–	–	–
Non-U.S. government debt securities	3,251	26	367	15	3,618	41
Corporate debt securities	3,199	124	848	46	4,047	170
Asset-backed securities:						
Collateralized loan obligations	15,340	67	10,692	124	26,032	191
Other	4,284	60	1,005	40	5,289	100
Total available-for-sale debt securities	72,482	857	14,878	251	87,360	1,108
Available-for-sale equity securities	–	–	–	–	–	–
Held-to-maturity debt securities						
Mortgage-backed securities:						
U.S. government agencies	3,294	42	–	–	3,294	42
Commercial	–	–	–	–	–	–
Total mortgage-backed securities	3,294	42	–	–	3,294	42
Obligations of U.S. states and municipalities	469	4	–	–	469	4
Total held-to-maturity securities	3,763	46	–	–	3,763	46
Total securities with gross unrealized losses	$ 76,245	$ 903	$ 14,878	$ 251	$ 91,123	$ 1,154

(a) Prior period amounts have been revised to conform with the current period presentation.

Gross unrealized losses

JPMorgan Chase Bank, N.A. has recognized unrealized losses on securities it intends to sell as OTTI. JPMorgan Chase Bank, N.A. does not intend to sell any of the remaining securities with an unrealized loss in AOCI as of December 31, 2016, and it is not likely that JPMorgan Chase Bank, N.A. will be required to sell these securities before recovery of their amortized cost basis. Except for the securities for which credit losses have been recognized in income, JPMorgan Chase Bank, N.A. believes that the securities with an unrealized loss in AOCI are not other-than-temporarily impaired as of December 31, 2016.

Other-than-temporary impairment

AFS debt and equity securities and HTM debt securities in unrealized loss positions are analyzed as part of JPMorgan Chase Bank, N.A.'s ongoing assessment of OTTI. For most types of debt securities, JPMorgan Chase Bank, N.A. considers a decline in fair value to be other-than-temporary when JPMorgan Chase Bank, N.A. does not expect to recover the entire amortized cost basis of the security. For beneficial interests in securitizations that are rated below "AA" at their acquisition, or that can be contractually prepaid or otherwise settled in such a way that JPMorgan Chase Bank, N.A. would not recover substantially all of its recorded investment, JPMorgan Chase Bank, N.A. considers an impairment to be other-than-temporary when there is an adverse change in expected cash flows. For AFS equity securities, JPMorgan Chase Bank, N.A. considers a decline in fair value to be other-than-temporary if it is probable that JPMorgan Chase Bank, N.A. will not recover its cost basis.

Potential OTTI is considered using a variety of factors, including the length of time and extent to which the market value has been less than cost; adverse conditions specifically related to the industry, geographic area or financial condition of the issuer or underlying collateral of a security; payment structure of the security; changes to the rating of the security by a rating agency; the volatility of the fair value changes; and JPMorgan Chase Bank, N.A.'s intent and ability to hold the security until recovery.

For AFS debt securities, JPMorgan Chase Bank, N.A. recognizes OTTI losses in earnings if JPMorgan Chase Bank, N.A. has the intent to sell the debt security, or if it is more likely than not that JPMorgan Chase Bank, N.A. will be required to sell the debt security before recovery of its amortized cost basis. In these circumstances the impairment loss is equal to the full difference between the amortized cost basis and the fair value of the securities. For debt securities in an unrealized loss position that JPMorgan Chase Bank, N.A. has the intent and ability to hold, the expected cash flows to be received from the securities are evaluated to determine if a credit loss exists. In the event of a credit loss, only the amount of impairment associated with the credit loss is recognized in income. Amounts relating to factors other than credit losses are recorded in OCI.

JPMorgan Chase Bank, N.A.'s cash flow evaluations take into account the factors noted above and expectations of relevant market and economic data as of the end of the reporting period. For securities issued in a securitization, JPMorgan Chase Bank, N.A. estimates cash flows considering underlying loan-level data and structural features of the securitization, such as subordination, excess spread, overcollateralization or other forms of credit enhancement, and compares the losses projected for the underlying collateral ("pool losses") against the level of credit enhancement in the securitization structure to determine whether these features are sufficient to absorb the pool losses, or whether a credit loss exists. JPMorgan Chase Bank, N.A. also performs other analyses to support its cash flow projections, such as first-loss analyses or stress scenarios.

For equity securities, OTTI losses are recognized in earnings if JPMorgan Chase Bank, N.A.intends to sell the security. In other cases JPMorgan Chase Bank, N.A. considers the relevant factors noted above, as well as JPMorgan Chase Bank, N.A.'s intent and ability to retain its investment for a period of time sufficient to allow for any anticipated recovery in market value, and whether evidence exists to support a realizable value equal to or greater than the cost basis. Any impairment loss on an equity security is equal to the full difference between the cost basis and the fair value of the security.

Securities gains and losses

The following table presents realized gains and losses and OTTI from AFS securities that were recognized in income.

Year ended December 31, (in millions)	**2016**	2015	2014
Realized gains	**$ 388**	$ 351	$ 305
Realized losses	**(230)**	(127)	(233)
OTTI losses	**(28)**	(22)	(4)
Net securities gains	**$ 130**	$ 202	$ 68
OTTI losses			
Credit losses recognized in income	**$ (1)**	$ (1)	$ (2)
Securities JPMorgan Chase Bank, N.A. intends to sell[(a)]	**(27)**	(21)	(2)
Total OTTI losses recognized in income	**$ (28)**	$ (22)	$ (4)

(a) Excludes realized losses on securities sold of $24 million, $5 million and $3 million for the years ended December 31, 2016, 2015 and 2014, respectively, 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 debt securities was not material as of and during the years ended December 31, 2016, 2015 and 2014.

Contractual maturities and yields

The following table presents the amortized cost and estimated fair value at December 31, 2016, of JPMorgan Chase Bank, N.A.'s investment securities portfolio by contractual maturity.

By remaining maturity December 31, 2016 (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[c]	Total
Available-for-sale debt securities					
Mortgage-backed securities[a]					
Amortized cost	$ 2,012	$ 2,393	$ 7,574	$ 74,210	$ 86,189
Fair value	2,022	2,449	7,756	74,912	87,139
Average yield[b]	2.04%	2.36%	3.03%	3.26%	3.18%
U.S. Treasury and government agencies[a]					
Amortized cost	$ 132	$ 4,573	$ 38,976	$ 1,141	$ 44,822
Fair value	132	4,561	38,317	1,091	44,101
Average yield[b]	0.42%	0.86%	1.27%	1.13%	1.22%
Obligations of U.S. states and municipalities					
Amortized cost	$ 134	$ 608	$ 840	$ 26,187	$ 27,769
Fair value	135	613	878	27,271	28,897
Average yield[b]	5.85%	2.67%	5.83%	6.52%	6.42%
Certificates of deposit					
Amortized cost	$ 106	$ —	$ —	$ —	$ 106
Fair value	106	—	—	—	106
Average yield[b]	1.78%	—%	—%	—%	1.78%
Non-U.S. government debt securities					
Amortized cost	$ 5,831	$ 14,109	$ 13,503	$ 1,054	$ 34,497
Fair value	5,838	14,444	13,944	1,062	35,288
Average yield[b]	2.92%	1.55%	0.93%	0.58%	1.51%
Corporate debt securities					
Amortized cost	$ 2,059	$ 1,312	$ 1,424	$ 121	$ 4,916
Fair value	2,070	1,332	1,433	123	4,958
Average yield[b]	2.88%	3.11%	3.24%	3.52%	3.06%
Asset-backed securities					
Amortized cost	$ —	$ 444	$ 21,552	$ 12,269	$ 34,265
Fair value	—	446	21,578	12,303	34,327
Average yield[b]	—%	0.49%	2.33%	2.22%	2.26%
Total available-for-sale debt securities					
Amortized cost	$ 10,274	$ 23,439	$ 83,869	$ 114,982	$ 232,564
Fair value	10,303	23,845	83,906	116,762	234,816
Average yield[b]	2.73%	1.59%	1.72%	3.84%	2.80%
Available-for-sale equity securities					
Amortized cost	$ —	$ —	$ —	$ 42	$ 42
Fair value	—	—	—	54	54
Average yield[b]	—%	—%	—%	0.23%	0.23%
Total available-for-sale securities					
Amortized cost	$ 10,274	$ 23,439	$ 83,869	$ 115,024	$ 232,606
Fair value	10,303	23,845	83,906	116,816	234,870
Average yield[b]	2.73%	1.59%	1.72%	3.84%	2.80%
Held-to-maturity debt securities					
Mortgage-backed securities[a]					
Amortized Cost	$ —	$ —	$ —	$ 35,693	$ 35,693
Fair value	—	—	—	36,165	36,165
Average yield[b]	—%	—%	—%	3.30%	3.30%
Obligations of U.S. states and municipalities					
Amortized cost	$ —	$ 29	$ 1,439	$ 13,007	$ 14,475
Fair value	—	29	1,467	13,228	14,724
Average yield[b]	—%	6.61%	5.11%	5.68%	5.63%
Total held-to-maturity securities					
Amortized cost	$ —	$ 29	$ 1,439	$ 48,700	$ 50,168
Fair value	—	29	1,467	49,393	50,889
Average yield[b]	—%	6.61%	5.11%	3.94%	3.97%

(a) U.S. government-sponsored enterprises were the only issuers whose securities exceeded 10% of JPMorgan Chase Bank, N.A.'s total stockholder's equity at December 31, 2016.

(b) 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.

(c) Includes securities with no stated maturity. Substantially all of JPMorgan Chase Bank, N.A.'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 seven years for agency residential MBS, three years for agency residential collateralized mortgage obligations and three years for nonagency residential collateralized mortgage obligations.

Note 14 – Securities financing activities

JPMorgan Chase Bank, N.A. enters into resale agreements, repurchase agreements, securities borrowed transactions and securities loaned transactions (collectively, "securities financing agreements") primarily to finance JPMorgan Chase Bank, N.A.'s inventory positions, acquire securities to cover short positions, accommodate customers' financing needs, settle other securities obligations and to deploy JPMorgan Chase Bank, N.A.'s excess cash.

Securities financing agreements are treated as collateralized financings on JPMorgan Chase Bank, N.A.'s Consolidated balance sheets. Resale and repurchase agreements are generally carried at the amounts at which the securities will be subsequently sold or repurchased. Securities borrowed and securities loaned transactions are generally carried at the amount of cash collateral advanced or received. Where appropriate under applicable accounting guidance, resale and repurchase agreements with the same counterparty are reported on a net basis. For further discussion of the offsetting of assets and liabilities, see Note 1. Fees received and paid in connection with securities financing agreements are recorded in interest income and interest expense on the Consolidated statements of income.

JPMorgan Chase Bank, N.A. has elected the fair value option for certain securities financing agreements. For further information regarding the fair value option, see Note 5. The securities financing agreements for which the fair value option has been elected are reported within securities purchased under resale agreements, securities loaned or sold under repurchase agreements, and securities borrowed on the Consolidated balance sheets. Generally, for agreements carried at fair value, current-period interest accruals are recorded within interest income and interest expense, with changes in fair value reported in principal transactions revenue. However, for financial instruments containing embedded derivatives that would be separately accounted for in accordance with accounting guidance for hybrid instruments, all changes in fair value, including any interest elements, are reported in principal transactions revenue.

Securities financing transactions expose JPMorgan Chase Bank, N.A. to credit and liquidity risk. To manage these risks, JPMorgan Chase Bank, N.A. monitors the value of the underlying securities (predominantly high-quality securities collateral, including government-issued debt and agency MBS) that it has received from or provided to its counterparties compared to the value of cash proceeds and exchanged collateral, and either requests additional collateral or returns securities or collateral when appropriate. Margin levels are initially established based upon the counterparty, the type of underlying securities, and the permissible collateral, and are monitored on an ongoing basis.

In resale agreements and securities borrowed transactions, JPMorgan Chase Bank, N.A. is exposed to credit risk to the extent that the value of the securities received is less than initial cash principal advanced and any collateral amounts exchanged. In repurchase agreements and securities loaned transactions, credit risk exposure arises to the extent that the value of underlying securities exceeds the value of the initial cash principal advanced, and any collateral amounts exchanged.

Additionally, JPMorgan Chase Bank, N.A. typically enters into master netting agreements and other similar arrangements with its counterparties, which provide for the right to liquidate the underlying securities and any collateral amounts exchanged in the event of a counterparty default. It is also JPMorgan Chase Bank, N.A.'s policy to take possession, where possible, of the securities underlying resale agreements and securities borrowed transactions. For further information regarding assets pledged and collateral received in securities financing agreements, see Note 28.

As a result of JPMorgan Chase Bank, N.A.'s credit risk mitigation practices with respect to resale and securities borrowed agreements as described above, JPMorgan Chase Bank, N.A. did not hold any reserves for credit impairment with respect to these agreements as of December 31, 2016 and 2015.

The table below summarizes the gross and net amounts of JPMorgan Chase Bank, N.A.'s securities financing agreements, as of December 31, 2016, and 2015. When JPMorgan Chase Bank, N.A. has obtained an appropriate legal opinion with respect to the master netting agreement with a counterparty and where other relevant netting criteria under U.S. GAAP are met, JPMorgan Chase Bank, N.A. nets, on the Consolidated balance sheets, the balances outstanding under its securities financing agreements with the same counterparty. In addition, JPMorgan Chase Bank, N.A. exchanges securities and/or cash collateral with its counterparties; this collateral also reduces, in JPMorgan Chase Bank, N.A.'s view, the economic exposure with the counterparty. Such collateral, along with securities financing balances that do not meet all these relevant netting criteria under U.S. GAAP, is presented as "Amounts not nettable on the Consolidated balance sheets," and reduces the "Net amounts" presented below, if JPMorgan Chase Bank, N.A. has an appropriate legal opinion with respect to the master netting agreement with the counterparty. Where a legal opinion has not been either sought or obtained, the securities financing balances are presented gross in the "Net amounts" below, and related collateral does not reduce the amounts presented.

	2016				
December 31, (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	**$ 320,678**	**$ (148,236)**	**$ 172,442**	**$ (165,651)**	**$ 6,791**
Securities borrowed	**32,497**	**–**	**32,497**	**(30,175)**	**2,322**
Liabilities					
Securities sold under repurchase agreements	**$ 214,823**	**$ (148,236)**	**$ 66,587**	**$ (64,082)**	**$ 2,505**
Securities loaned and other[a]	**14,996**	**–**	**14,996**	**(14,093)**	**903**

	2015				
December 31, (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	$ 236,970	$ (89,172)	$ 147,798	$ (144,702) [e]	$ 3,096 [e]
Securities borrowed	25,519	–	25,519	(23,759)	1,760
Liabilities					
Securities sold under repurchase agreements	$ 155,051	$ (89,172)	$ 65,879	$ (59,830) [e]	$ 6,049 [e]
Securities loaned and other[a]	17,260	–	17,260	(16,873)	387

(a) Includes securities-for-securities lending transactions of $7.5 billion and $6.7 billion at December 31, 2016 and 2015, respectively, accounted for at fair value, where JPMorgan Chase Bank, N.A. is acting as lender. These amounts are presented within other liabilities in the Consolidated balance sheets.
(b) Includes securities financing agreements accounted for at fair value. At December 31, 2016 and 2015, included securities purchased under resale agreements of $5.3 billion and $8.0 billion, respectively, and securities sold under agreements to repurchase of $399 million and $728 million, respectively. There were no securities borrowed at December 31, 2016 and $395 million at December 31, 2015. 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 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 December 31, 2016 and 2015, included $4.5 billion and $2.0 billion, respectively, of securities purchased under resale agreements; $1.9 billion and $1.5 billion, respectively, of securities borrowed; $0.5 billion and $3.7 billion, respectively, of securities sold under agreements to repurchase; and $11 million and $5 million, respectively, of securities loaned and other.
(e) Prior period amounts have been revised to conform with the current presentation.

The tables below present as of December 31, 2016, and 2015 the types of financial assets pledged in securities financing agreements and the remaining contractual maturity of the securities financing agreements.

December 31, (in millions)	Gross liability balance			
	2016		2015	
	Securities sold under repurchase agreements	Securities loaned and other[a]	Securities sold under repurchase agreements	Securities loaned and other[a]
Mortgage-backed securities	**$ 2,364**	**$ –**	$ 3,286	$ –
U.S. Treasury and government agencies	**52,657**	**7,036**	60,119	6,296 [b]
Non-U.S. government debt	**150,599**	**1,617**	80,863	4,812
Corporate debt securities	**8,097**	**466**	8,794	637
Asset-backed securities	**1,106**	**–**	734	–
Equity securities	**–**	**5,877**	1,255	5,515 [b]
Total	**$ 214,823**	**$ 14,996**	$ 155,051	$ 17,260

2016 (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	**$ 31,776**	**$ 122,979**	**$ 39,398**	**$ 20,670**	**$ 214,823**
Total securities loaned and other[a]	**12,880**	**1,388**	**520**	**208**	**14,996**

2015 (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	$ 25,950	$ 76,681	$ 35,050	$ 17,370	$ 155,051
Total securities loaned and other[a]	14,517	708	475	1,560	17,260

(a) Includes securities-for-securities lending transactions of $7.5 billion and $6.7 billion at December 31, 2016 and 2015, respectively, accounted for at fair value, where JPMorgan Chase Bank, N.A. is acting as lender. These amounts are presented within other liabilities on the Consolidated balance sheets.
(b) The prior period amounts have been revised to conform with the current presentation.

Transfers not qualifying for sale accounting

At December 31, 2016 and 2015, JPMorgan Chase Bank, N.A. held $5.8 billion and $7.5 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 other borrowed funds on the Consolidated balance sheets.

Note 15 – 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. JPMorgan Chase Bank, N.A. 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

The following provides a detailed accounting discussion of these loan categories:

Loans held-for-investment (other than PCI loans)

Originated or purchased loans held-for-investment, other than PCI loans, are recorded at the principal amount outstanding, net of the following: charge-offs; interest applied to principal (for loans accounted for on the cost recovery method); unamortized discounts and premiums; and net deferred loan fees or costs. Credit card loans also include billed finance charges and fees net of an allowance for uncollectible amounts.

Interest income

Interest income on performing loans held-for-investment, other than PCI loans, is accrued and recognized as interest income at the contractual rate of interest. Purchase price discounts or premiums, as well as net deferred loan fees or costs, are amortized into interest income over the contractual life of the loan to produce a level rate of return.

Nonaccrual loans

Nonaccrual loans are those on which the accrual of interest has been suspended. Loans (other than credit card loans and certain consumer loans insured by U.S. government agencies) are placed on nonaccrual status and considered nonperforming 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. A loan is determined to be past due when the minimum payment is not received from the borrower by the contractually specified due date or for certain loans (e.g., residential real estate loans), when a monthly payment is due and unpaid for 30 days or more. Finally, collateral-dependent loans are typically maintained on nonaccrual status.

On the date a loan is placed on nonaccrual status, all interest accrued but not collected is reversed against interest income. In addition, the amortization of deferred amounts is suspended. Interest income on nonaccrual loans may be recognized as cash interest payments are received (i.e., on a cash basis) if the recorded loan balance is deemed fully collectible; however, if there is doubt regarding the ultimate collectibility of the recorded loan balance, all interest cash receipts are applied to reduce the carrying value of the loan (the cost recovery method). For consumer loans, application of this policy typically results in JPMorgan Chase Bank, N.A. recognizing interest income on nonaccrual consumer loans on a cash basis.

A loan may be returned to accrual status when repayment is reasonably assured and there has been demonstrated performance under the terms of the loan or, if applicable, the terms of the restructured loan.

As permitted by regulatory guidance, credit card loans are generally exempt from being placed on nonaccrual status; accordingly, interest and fees related to credit card loans continue to accrue until the loan is charged off or paid in full. However, JPMorgan Chase Bank, N.A. separately establishes an allowance, which is offset against loans and charged to interest income, for the estimated uncollectible portion of accrued and billed interest and fee income on credit card loans. The allowance is established with a charge to interest income and is reported as an offset to loans.

Allowance for loan losses

The allowance for loan losses represents the estimated probable credit losses inherent in the held-for-investment loan portfolio at the balance sheet date and is recognized on the balance sheet as a contra asset, which brings the recorded investment to the net carrying value. Changes in the allowance for loan losses are recorded in the provision for credit losses on JPMorgan Chase Bank, N.A.'s Consolidated statements of income. See Note 16 for further information on JPMorgan Chase Bank, N.A.'s accounting policies for the allowance for loan losses.

Charge-offs

Consumer loans, other than risk-rated business banking, risk-rated auto and PCI loans, are generally charged off or charged down to the net realizable value of the underlying collateral (i.e., fair value less costs to sell), with an offset to the allowance for loan losses, upon reaching specified stages of delinquency in accordance with standards established by the Federal Financial Institutions Examination Council ("FFIEC"). Residential real estate loans, non-modified credit card loans and scored business banking loans are generally charged off no later than 180 days past due. Auto, student and modified credit card loans are charged off no later than 120 days past due.

Certain consumer loans will be charged off earlier than the FFIEC charge-off standards in certain circumstances as follows:

- A charge-off is recognized when a loan is modified in a troubled debt restructuring ("TDR") if the loan is determined to be collateral-dependent.
- Loans to borrowers who have experienced an event (e.g., bankruptcy) that suggests a loss is either known or highly certain are subject to accelerated charge-off standards. Residential real estate and auto loans are

charged off when the loan becomes 60 days past due, or sooner if the loan is determined to be collateral-dependent. Credit card, student and scored business banking loans are charged off within 60 days of receiving notification of the bankruptcy filing or other event.

- Auto loans are written down to net realizable value upon repossession of the automobile and after a redemption period (i.e., the period during which a borrower may cure the loan) has passed.

Other than in certain limited circumstances, JPMorgan Chase Bank, N.A. typically does not recognize charge-offs on government-guaranteed loans.

Wholesale loans, risk-rated business banking loans and risk-rated auto loans are charged off when it is highly certain that a loss has been realized, including situations where a loan is determined to be both impaired and collateral-dependent. The determination of whether to recognize a charge-off includes many factors, including the prioritization of JPMorgan Chase Bank, N.A.'s claim in bankruptcy, expectations of the workout/restructuring of the loan and valuation of the borrower's equity or the loan collateral.

When a loan is charged down to the estimated net realizable value, the determination of the fair value of the collateral depends on the type of collateral (e.g., securities, real estate). In cases where the collateral is in the form of liquid securities, the fair value is based on quoted market prices or broker quotes. For illiquid securities or other financial assets, the fair value of the collateral is estimated using a discounted cash flow model.

For residential real estate loans, collateral values are based upon external valuation sources. When it becomes likely that a borrower is either unable or unwilling to pay, JPMorgan Chase Bank, N.A. obtains a broker's price opinion of the home based on an exterior-only valuation ("exterior opinions"), which is then updated at least every six months thereafter. As soon as practicable after JPMorgan Chase Bank, N.A. receives the property in satisfaction of a debt (e.g., by taking legal title or physical possession), generally, either through foreclosure or upon the execution of a deed in lieu of foreclosure transaction with the borrower, JPMorgan Chase Bank, N.A. obtains an appraisal based on an inspection that includes the interior of the home ("interior appraisals"). Exterior opinions and interior appraisals are discounted based upon JPMorgan Chase Bank, N.A.'s experience with actual liquidation values as compared with the estimated values provided by exterior opinions and interior appraisals, considering state- and product-specific factors.

For commercial real estate loans, collateral values are generally based on appraisals from internal and external valuation sources. Collateral values are typically updated every six to twelve months, either by obtaining a new appraisal or by performing an internal analysis, in accordance with JPMorgan Chase Bank, N.A.'s policies. JPMorgan Chase Bank, N.A. also considers both borrower- and market-specific factors, which may result in obtaining appraisal updates or broker price opinions at more frequent intervals.

Loans held-for-sale
Held-for-sale loans are measured at the lower of cost or fair value, with valuation changes recorded in noninterest revenue. For consumer loans, the valuation is performed on a portfolio basis. For wholesale loans, the valuation is performed on an individual loan basis.

Interest income on loans held-for-sale is accrued and recognized based on the contractual rate of interest.

Loan origination fees or costs and purchase price discounts or premiums are deferred in a contra loan account until the related loan is sold. The deferred fees and discounts or premiums are an adjustment to the basis of the loan and therefore are included in the periodic determination of the lower of cost or fair value adjustments and/or the gain or loss recognized at the time of sale.

Held-for-sale loans are subject to the nonaccrual policies described above.

Because held-for-sale loans are recognized at the lower of cost or fair value, JPMorgan Chase Bank, N.A.'s allowance for loan losses and charge-off policies do not apply to these loans.

Loans at fair value
Loans used in a market-making strategy or risk managed on a fair value basis are measured at fair value, with changes in fair value recorded in noninterest revenue.

Interest income on loans is accrued and recognized based on the contractual rate of interest. Changes in fair value are recognized in noninterest revenue. Loan origination fees are recognized upfront in noninterest revenue. Loan origination costs are recognized in the associated expense category as incurred.

Because these loans are recognized at fair value, JPMorgan Chase Bank, N.A.'s allowance for loan losses and charge-off policies do not apply to these loans.

See Note 5 for further information on JPMorgan Chase Bank, N.A.'s elections of fair value accounting under the fair value option. See Note 4 and Note 5 for further information on loans carried at fair value and classified as trading assets.

PCI loans
PCI loans held-for-investment are initially measured at fair value. PCI loans have evidence of credit deterioration since the loan's origination date and therefore it is probable, at acquisition, that all contractually required payments will not be collected. Because PCI loans are initially measured at fair value, which includes an estimate of future credit losses, no allowance for loan losses related to PCI loans is recorded at the acquisition date. See page 87 of this Note for information on accounting for PCI loans subsequent to their acquisition.

Loan classification changes

Loans in the held-for-investment portfolio that management decides to sell are transferred to the held-for-sale portfolio at the lower of cost or fair value on the date of transfer. Credit-related losses are charged against the allowance for loan losses; non-credit related losses such as those due to changes in interest rates or foreign currency exchange rates are recognized in noninterest revenue.

In the event that management decides to retain a loan in the held-for-sale portfolio, the loan is transferred to the held-for-investment portfolio at the lower of cost or fair value on the date of transfer. These loans are subsequently assessed for impairment based on JPMorgan Chase Bank, N.A.'s allowance methodology. For a further discussion of the methodologies used in establishing JPMorgan Chase Bank, N.A.'s allowance for loan losses, see Note 16.

Loan modifications

JPMorgan Chase Bank, N.A. seeks to modify certain loans in conjunction with its loss-mitigation activities. Through the modification, JPMorgan Chase Bank, N.A. grants one or more concessions to a borrower who is experiencing financial difficulty in order to minimize JPMorgan Chase Bank, N.A.'s economic loss, avoid foreclosure or repossession of the collateral, and to ultimately maximize payments received by JPMorgan Chase Bank, N.A. from the borrower. The concessions granted vary by program and by borrower-specific characteristics, and may include interest rate reductions, term extensions, payment deferrals, principal forgiveness, or the acceptance of equity or other assets in lieu of payments.

Such modifications are accounted for and reported as TDRs. A loan that has been modified in a TDR is generally considered to be impaired until it matures, is repaid, or is otherwise liquidated, regardless of whether the borrower performs under the modified terms. In certain limited cases, the effective interest rate applicable to the modified loan is at or above the current market rate at the time of the restructuring. In such circumstances, and assuming that the loan subsequently performs under its modified terms and JPMorgan Chase Bank, N.A. expects to collect all contractual principal and interest cash flows, the loan is disclosed as impaired and as a TDR only during the year of the modification; in subsequent years, the loan is not disclosed as an impaired loan or as a TDR so long as repayment of the restructured loan under its modified terms is reasonably assured.

Loans, except for credit card loans, modified in a TDR are generally placed on nonaccrual status, although in many cases such loans were already on nonaccrual status prior to modification. These loans may be returned to performing status (the accrual of interest is resumed) if the following criteria are met: (i) the borrower has performed under the modified terms for a minimum of six months and/or six payments, and (ii) JPMorgan Chase Bank, N.A. has an expectation that repayment of the modified loan is reasonably assured based on, for example, the borrower's debt capacity and level of future earnings, collateral values, LTV ratios, and other current market considerations. In certain limited and well-defined circumstances in which the loan is current at the modification date, such loans are not placed on nonaccrual status at the time of modification.

Because loans modified in TDRs are considered to be impaired, these loans are measured for impairment using JPMorgan Chase Bank, N.A.'s established asset-specific allowance methodology, which considers the expected re-default rates for the modified loans. A loan modified in a TDR generally remains subject to the asset-specific allowance methodology throughout its remaining life, regardless of whether the loan is performing and has been returned to accrual status and/or the loan has been removed from the impaired loans disclosures (i.e., loans restructured at market rates). For further discussion of the methodology used to estimate JPMorgan Chase Bank, N.A.'s asset-specific allowance, see Note 16.

Foreclosed property

JPMorgan Chase Bank, N.A. acquires property from borrowers through loan restructurings, workouts, and foreclosures. Property acquired may include real property (e.g., residential real estate, land, and buildings) and commercial and personal property (e.g., automobiles, aircraft, railcars, and ships).

JPMorgan Chase Bank, N.A. recognizes foreclosed property upon receiving assets in satisfaction of a loan (e.g., by taking legal title or physical possession). For loans collateralized by real property, JPMorgan Chase Bank, N.A. generally recognizes the asset received at foreclosure sale or upon the execution of a deed in lieu of foreclosure transaction with the borrower. Foreclosed assets are reported in other assets on the Consolidated balance sheets and initially recognized at fair value less costs to sell. Each quarter the fair value of the acquired property is reviewed and adjusted, if necessary, to the lower of cost or fair value. Subsequent adjustments to fair value are charged/credited to noninterest revenue. Operating expense, such as real estate taxes and maintenance, are charged to other expense.

Loan portfolio

JPMorgan Chase Bank, N.A.'s loan portfolio is divided into three portfolio segments, which are the same segments used by JPMorgan Chase Bank, N.A. to determine the allowance for loan losses: Consumer, excluding credit card; Credit card; and Wholesale. Within each portfolio segment JPMorgan Chase Bank, N.A. 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 • Home equity[(b)] • Residential mortgage[(c)] Other consumer loans • Auto[(d)] • Business banking[(d)(e)] • Student and other Residential real estate – PCI • Home equity • Prime mortgage • Subprime mortgage • Option ARMs	• Credit card loans	• Commercial and industrial • Real estate • Financial institutions • Government agencies • Other[(g)]

(a) Includes loans held in the consumer & community banking business, prime mortgage and home equity loans held in the asset & wealth management business and prime mortgage loans held in the corporate business.
(b) Includes senior and junior lien home equity loans.
(c) Includes prime (including option ARMs) and subprime 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 the consumer & community banking business, and therefore, for consistency in presentation, are included with the other consumer loan classes.
(e) Predominantly includes business banking loans as well as deposit overdrafts.
(f) Includes loans held in the corporate & investment banking, commercial banking and asset & wealth management businesses and in the corporate business. Excludes prime mortgage and home equity loans held in the asset & wealth management businesses and prime mortgage loans held in the corporate business. Classes are internally defined and may not align with regulatory definitions.
(g) Includes loans to: individuals; SPEs; holding companies; and private education and civic organizations. For more information on exposures to SPEs, see Note 17.

The following tables summarize JPMorgan Chase Bank, N.A.'s loan balances by portfolio segment.

December 31, 2016 (in millions)	Consumer, excluding credit card	Credit card[(a)]	Wholesale	Total
Retained	**$ 364,360**	**$ 35,773**	**$ 387,132**	**$ 787,265** [(b)]
Held-for-sale	**238**	**105**	**2,283**	**2,626**
At fair value	**–**	**–**	**2,228**	**2,228**
Total	**$ 364,598**	**$ 35,878**	**$ 391,643**	**$ 792,119**

December 31, 2015 (in millions)	Consumer, excluding credit card	Credit card[(a)]	Wholesale	Total
Retained	$ 344,300	$ 30,989	$ 356,031	$ 731,320 [(b)]
Held-for-sale	466	76	1,103	1,645
At fair value	–	–	2,752	2,752
Total	$ 344,766	$ 31,065	$ 359,886	$ 735,717

(a) Includes billed interest and fees net of an allowance for uncollectible interest and fees.
(b) Loans (other than PCI loans and those for which the fair value option has been elected) are presented net of unearned income, unamortized discounts and premiums, and net deferred loan costs. These amounts were not material as of December 31, 2016 and 2015.

The following tables provide information about the carrying value of retained loans purchased, sold and reclassified to held-for-sale during the periods indicated. These tables exclude loans recorded at fair value. JPMorgan Chase Bank, N.A. manages its exposure to credit risk on an ongoing basis. Selling loans is one way that JPMorgan Chase Bank, N.A. reduces its credit exposures.

Year ended December 31, (in millions)	2016			
	Consumer, excluding credit card	Credit card	Wholesale	Total
Purchases	**$ 4,116** (a)(b)	**$ –**	**$ 1,448**	**$ 5,564**
Sales	**6,368**	**–**	**8,739**	**15,107**
Retained loans reclassified to held-for-sale	**321**	**–**	**2,381**	**2,702**

Year ended December 31, (in millions)	2015			
	Consumer, excluding credit card	Credit card	Wholesale	Total
Purchases	$ 5,279 (a)(b)	$ –	$ 1,066	$ 6,345
Sales	5,049	–	9,195	14,244
Retained loans reclassified to held-for-sale	1,439	79	642	2,160

Year ended December 31, (in millions)	2014			
	Consumer, excluding credit card	Credit card	Wholesale	Total
Purchases	$ 7,434 (a)(b)	$ –	$ 885	$ 8,319
Sales	6,582	–	7,381	13,963
Retained loans reclassified to held-for-sale	1,173	2,176	581	3,930

(a) Purchases predominantly represent JPMorgan Chase Bank, N.A.'s voluntary repurchase of certain delinquent loans from loan pools as permitted by Government National Mortgage Association ("Ginnie Mae") guidelines. JPMorgan Chase Bank, N.A. 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, the Federal Housing Administration ("FHA"), Rural Housing Service ("RHS") and/or the U.S. Department of Veterans Affairs ("VA").
(b) Excludes purchases of retained loans sourced through the correspondent origination channel and underwritten in accordance with JPMorgan Chase Bank, N.A.'s standards. Such purchases were $30.4 billion, $50.3 billion and $15.1 billion for the years ended December 31, 2016, 2015 and 2014, respectively.

The following table provides information about gains and losses, including lower of cost or fair value adjustments, on loan sales by portfolio segment.

Year ended December 31, (in millions)	**2016**	2015	2014
Net gains/(losses) on sales of loans (including lower of cost or fair value adjustments)[(a)]			
Consumer, excluding credit card	**$ 231**	$ 305	$ 341
Credit card	**(12)**	(3)	(227)
Wholesale	**26**	15	85
Total net gains on sales of loans (including lower of cost or fair value adjustments)	**$ 245**	$ 317	$ 199

(a) Excludes sales related to loans accounted for at fair value.

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, business banking loans, and student and other 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 table below provides information about retained consumer loans, excluding credit card, by class.

December 31, (in millions)	2016	2015
Residential real estate – excluding PCI		
Home equity	**$ 39,049**	$ 45,540
Residential mortgage	**192,132**	166,203
Other consumer loans		
Auto	**65,814**	60,255
Business banking	**22,697**	21,208
Student and other	**8,989**	10,096
Residential real estate – PCI		
Home equity	**12,902**	14,989
Prime mortgage	**7,602**	8,893
Subprime mortgage	**2,941**	3,263
Option ARMs	**12,234**	13,853
Total retained loans	**$ 364,360**	$ 344,300

Delinquency rates are a primary credit quality indicator for consumer loans. Loans that are more than 30 days past due provide an early warning of borrowers who may be experiencing financial difficulties and/or who may be unable or unwilling to repay the loan. As the loan continues to age, it becomes more clear that the borrower is likely either unable or unwilling to pay. In the case of residential real estate loans, late-stage delinquencies (greater than 150 days past due) are a strong indicator of loans that will ultimately result in a foreclosure or similar liquidation transaction. In addition to delinquency rates, other credit quality indicators for consumer loans vary based on the class of loan, as follows:

- For residential real estate loans, including both non-PCI and PCI portfolios, the current estimated LTV ratio, or the combined LTV ratio in the case of junior lien loans, is an indicator of the potential loss severity in the event of default. Additionally, LTV or combined LTV ratios can provide insight into a borrower's continued willingness to pay, as the delinquency rate of high-LTV loans tends to be greater than that for loans where the borrower has equity in the collateral. The geographic distribution of the loan collateral also provides insight as to the credit quality of the portfolio, as factors such as the regional economy, home price changes and specific events such as natural disasters, will affect credit quality. The borrower's current or "refreshed" FICO score is a secondary credit-quality indicator for certain loans, as FICO scores are an indication of the borrower's credit payment history. Thus, a loan to a borrower with a low FICO score (660 or below) is considered to be of higher risk than a loan to a borrower with a high FICO score. Further, a loan to a borrower with a high LTV ratio and a low FICO score is at greater risk of default than a loan to a borrower that has both a high LTV ratio and a high FICO score.
- For scored auto, scored business banking and student loans, geographic distribution is an indicator of the credit performance of the portfolio. Similar to residential real estate loans, geographic distribution provides insights into the portfolio performance based on regional economic activity and events.
- Risk-rated business banking and auto loans are similar to wholesale loans in that the primary credit quality indicators are the risk rating that is assigned to the loan and whether the loans are considered to be criticized and/or nonaccrual. Risk ratings are reviewed on a regular and ongoing basis by Credit Risk Management and are adjusted as necessary for updated information about borrowers' ability to fulfill their obligations. For further information about risk-rated wholesale loan credit quality indicators, see page 92 of this Note.

Residential real estate — excluding PCI loans

The following table provides information by class for residential real estate — excluding retained PCI loans in the consumer, excluding credit card, portfolio segment.

The following factors should be considered in analyzing certain credit statistics applicable to JPMorgan Chase Bank, N.A.'s residential real estate — excluding PCI loans portfolio: (i) junior lien home equity loans may be fully charged off when the loan becomes 180 days past due, and the value of the collateral does not support the repayment of the loan, resulting in relatively high charge-off rates for this product class; and (ii) the lengthening of loss-mitigation timelines may result in higher delinquency rates for loans carried at the net realizable value of the collateral that remain on JPMorgan Chase Bank, N.A.'s Consolidated balance sheets.

Residential real estate – excluding PCI loans

December 31, (in millions, except ratios)	Home equity[g]		Residential mortgage[g]		Total residential real estate – excluding PCI	
	2016	2015	**2016**	2015	**2016**	2015
Loan delinquency[a]						
Current	**$ 37,927**	$ 44,280	**$ 183,795**	$ 156,437	**$ 221,722**	$ 200,717
30–149 days past due	**646**	708	**3,820**	4,037	**4,466**	4,745
150 or more days past due	**476**	552	**4,517**	5,729	**4,993**	6,281
Total retained loans	**$ 39,049**	$ 45,540	**$ 192,132**	$ 166,203	**$ 231,181**	$ 211,743
% of 30+ days past due to total retained loans[b]	**2.87%**	2.77%	**0.75%**	1.02%	**1.11%**	1.40%
90 or more days past due and government guaranteed[c]	**$ —**	$ —	**$ 4,856**	$ 6,053	**$ 4,856**	$ 6,053
Nonaccrual loans	**1,844**	2,191	**2,244**	2,499	**4,088**	4,690
Current estimated LTV ratios[d][e]						
Greater than 125% and refreshed FICO scores:						
Equal to or greater than 660	**$ 70**	$ 165	**$ 30**	$ 58	**$ 100**	$ 223
Less than 660	**15**	32	**48**	77	**63**	109
101% to 125% and refreshed FICO scores:						
Equal to or greater than 660	**668**	1,343	**135**	274	**803**	1,617
Less than 660	**220**	434	**177**	290	**397**	724
80% to 100% and refreshed FICO scores:						
Equal to or greater than 660	**2,960**	4,534	**4,025**	3,158	**6,985**	7,692
Less than 660	**945**	1,408	**717**	996	**1,662**	2,404
Less than 80% and refreshed FICO scores:						
Equal to or greater than 660	**27,307**	29,636	**169,570**	142,232	**196,877**	171,868
Less than 660	**4,380**	4,932	**6,753**	6,789	**11,133**	11,721
No FICO/LTV available	**2,484**	3,056	**1,326**	1,656	**3,810**	4,712
U.S. government-guaranteed	**—**	—	**9,351**	10,673	**9,351**	10,673
Total retained loans	**$ 39,049**	$ 45,540	**$ 192,132**	$ 166,203	**$ 231,181**	$ 211,743
Geographic region						
California	**$ 7,641**	$ 8,941	**$ 59,785**	$ 47,262	**$ 67,426**	$ 56,203
New York	**7,975**	9,143	**24,809**	21,457	**32,784**	30,600
Illinois	**2,946**	3,419	**13,114**	11,523	**16,060**	14,942
Texas	**2,224**	2,531	**10,716**	9,127	**12,940**	11,658
Florida	**2,132**	2,408	**8,385**	7,175	**10,517**	9,583
New Jersey	**2,252**	2,589	**6,371**	5,566	**8,623**	8,155
Colorado	**677**	806	**6,304**	5,409	**6,981**	6,215
Washington	**1,228**	1,450	**5,442**	4,176	**6,670**	5,626
Massachusetts	**371**	459	**5,833**	5,340	**6,204**	5,799
Arizona	**1,771**	2,143	**3,577**	3,155	**5,348**	5,298
All other[f]	**9,832**	11,651	**47,796**	46,013	**57,628**	57,664
Total retained loans	**$ 39,049**	$ 45,540	**$ 192,132**	$ 166,203	**$ 231,181**	$ 211,743

(a) Individual delinquency classifications include mortgage loans insured by U.S. government agencies as follows: current included $2.5 billion and $2.6 billion; 30–149 days past due included $3.1 billion and $3.2 billion; and 150 or more days past due included $3.8 billion and $4.9 billion at December 31, 2016 and 2015, respectively.

(b) At December 31, 2016 and 2015, residential mortgage loans excluded mortgage loans insured by U.S. government agencies of $6.9 billion and $8.1 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 December 31, 2016, and 2015, these balances included $2.2 billion and $3.4 billion, 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 December 31, 2016, and 2015.

(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 JPMorgan Chase Bank, N.A. on at least a quarterly basis.

(f) At December 31, 2016 and 2015, included mortgage loans insured by U.S. government agencies of $9.4 billion and $10.7 billion, respectively.

(g) Includes residential real estate loans to private banking clients in the asset & wealth management business, for which the primary credit quality indicators are the borrower's financial position and LTV.

The following table represents JPMorgan Chase Bank, N.A.'s delinquency statistics for junior lien home equity loans and lines as of December 31, 2016 and 2015.

	Total loans		Total 30+ day delinquency rate	
December 31, (in millions, except ratios)	**2016**	2015	**2016**	2015
HELOCs:[a]				
Within the revolving period[b]	**$ 10,297**	$ 17,040	**1.27%**	1.57%
Beyond the revolving period	**13,265**	11,244	**3.05**	3.10
HELOANs	**1,861**	2,408	**2.85**	3.03
Total	**$ 25,423**	$ 30,692	**2.32%**	2.25%

(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) JPMorgan Chase Bank, N.A. 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 or when the collateral does not support the loan amount.

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 JPMorgan Chase Bank, N.A.'s allowance for loan losses.

Impaired loans

The table below sets forth information about JPMorgan Chase Bank, N.A.'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 16.

December 31, (in millions)	Home equity		Residential mortgage		Total residential real estate – excluding PCI	
	2016	2015	**2016**	2015	**2016**	2015
Impaired loans						
With an allowance	**$ 1,266**	$ 1,293	**$ 4,681**	$ 5,234	**$ 5,947**	$ 6,527
Without an allowance[a]	**998**	1,065	**1,341**	1,445	**2,339**	2,510
Total impaired loans[b][c]	**$ 2,264**	$ 2,358	**$ 6,022**	$ 6,679	**$ 8,286**	$ 9,037
Allowance for loan losses related to impaired loans	**$ 121**	$ 138	**$ 68**	$ 108	**$ 189**	$ 246
Unpaid principal balance of impaired loans[d]	**3,846**	3,960	**8,274**	9,069	**12,120**	13,029
Impaired loans on nonaccrual status[e]	**1,116**	1,218	**1,752**	1,954	**2,868**	3,172

(a) Represents collateral-dependent residential real estate loans that are charged off to the fair value of the underlying collateral less cost to sell. JPMorgan Chase Bank, N.A. 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 December 31, 2016, Chapter 7 residential real estate loans included approximately 12% home equity and 16% of residential mortgages that were 30 days or more past due.
(b) At December 31, 2016 and 2015, $3.4 billion and $3.8 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 residential real estate impaired loans, excluding PCI loans, are in the U.S.
(d) Represents the contractual amount of principal owed at December 31, 2016 and 2015. 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) As of December 31, 2016 and 2015, nonaccrual loans included $2.3 billion and $2.5 billion, respectively, of TDRs for which the borrowers were less than 90 days past due. For additional information about loans modified in a TDR that are on nonaccrual status refer to the Loan accounting framework on pages 76–78 of this Note.

The following table presents average impaired loans and the related interest income reported by JPMorgan Chase Bank, N.A.

Year ended December 31,	Average impaired loans			Interest income on impaired loans[(a)]			Interest income on impaired loans on a cash basis[(a)]		
(in millions)	**2016**	2015	2014	**2016**	2015	2014	**2016**	2015	2014
Home equity	**$ 2,311**	$ 2,340	$ 2,403	**$ 124**	$ 128	$ 135	**$ 80**	$ 84	$ 89
Residential mortgage	**6,365**	7,092	9,025	**305**	325	399	**77**	84	96
Total residential real estate – excluding PCI	**$ 8,676**	$ 9,432	$ 11,428	**$ 429**	$ 453	$ 534	**$ 157**	$ 168	$ 185

(a) Generally, interest income on loans modified in TDRs is recognized on a cash basis until such time as 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 JPMorgan Chase Bank, N.A.

Year ended December 31, (in millions)	**2016**	2015	2014
Home equity	**$ 385**	$ 394	$ 310
Residential mortgage	**254**	259	387
Total residential real estate – excluding PCI	**$ 639**	$ 653	$ 697

Nature and extent of modifications

The U.S. Treasury's Making Home Affordable programs, as well as JPMorgan Chase Bank, N.A.'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 table provides information about how residential real estate loans, excluding PCI loans, were modified under JPMorgan Chase Bank, N.A.'s loss mitigation programs described above during the periods presented. This table excludes Chapter 7 loans where the sole concession granted is the discharge of debt.

	Home equity			Residential mortgage			Total residential real estate – excluding PCI		
Year ended Dec. 31,	**2016**	2015	2014	**2016**	2015	2014	**2016**	2015	2014
Number of loans approved for a trial modification	**3,744**	3,916	1,542	**1,936**	2,662	2,980	**5,680**	6,578	4,522
Number of loans permanently modified	**4,824**	4,248	3,920	**3,320**	3,080	5,400	**8,144**	7,328	9,320
Concession granted:[(a)]									
Interest rate reduction	**75%**	66%	75%	**76%**	71%	45%	**76%**	68%	58%
Term or payment extension	**83**	89	78	**90**	81	52	**86**	86	63
Principal and/or interest deferred	**19**	23	21	**16**	26	15	**18**	24	18
Principal forgiveness	**9**	7	27	**26**	28	52	**16**	16	41
Other[(b)]	**6**	–	–	**25**	11	9	**13**	5	6

(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. A significant portion of trial modifications include interest rate reductions and/or term or payment extensions.

(b) Represents variable interest rate to fixed interest rate modifications.

Financial effects of modifications and redefaults

The following table provides information about the financial effects of the various concessions granted in modifications of residential real estate loans, excluding PCI, under JPMorgan Chase Bank, N.A.'s loss mitigation programs described above and about redefaults of certain loans modified in TDRs for the periods presented. Because the specific types and amounts of concessions offered to borrowers frequently change between the trial modification and the permanent modification, the following table presents only the financial effects of permanent modifications. This table also excludes Chapter 7 loans where the sole concession granted is the discharge of debt.

Year ended December 31, (in millions, except weighted-average data and number of loans)	Home equity			Residential mortgage			Total residential real estate – excluding PCI		
	2016	2015	2014	**2016**	2015	2014	**2016**	2015	2014
Weighted-average interest rate of loans with interest rate reductions – before TDR	**4.99%**	5.21%	5.29%	**5.59%**	5.69%	5.78%	**5.36%**	5.52%	5.64%
Weighted-average interest rate of loans with interest rate reductions – after TDR	**2.34**	2.35	2.30	**2.93**	2.81	2.98	**2.69**	2.65	2.79
Weighted-average remaining contractual term (in years) of loans with term or payment extensions – before TDR	**18**	18	19	**24**	25	24	**22**	22	23
Weighted-average remaining contractual term (in years) of loans with term or payment extensions – after TDR	**38**	35	33	**38**	37	36	**38**	36	36
Charge-offs recognized upon permanent modification	**$ 1**	$ 4	$ 27	**$ 4**	$ 11	$ 12	**$ 5**	$ 15	$ 39
Principal deferred	**23**	26	16	**30**	55	54	**53**	81	70
Principal forgiven	**7**	6	35	**44**	66	166	**51**	72	201
Balance of loans that redefaulted within one year of permanent modification[(a)]	**$ 39**	$ 21	$ 29	**$ 98**	$ 131	$ 204	**$ 137**	$ 152	$ 233

(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 December 31, 2016, the weighted-average estimated remaining lives of residential real estate loans, excluding PCI loans, permanently modified in TDRs were 9 years for home equity and 10 years for residential mortgage. 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 December 31, 2016 and 2015, JPMorgan Chase Bank, N.A. had non-PCI residential real estate loans, excluding those insured by U.S. government agencies, with a carrying value of $931 million and $1.2 billion, 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, business banking and student loans.

December 31, (in millions, except ratios)	Auto		Business banking		Student and other		Total other consumer	
	2016	2015	**2016**	2015	**2016**	2015	**2016**	2015
Loan delinquency[(a)]								
Current	**$65,029**	$59,442	**$22,311**	$ 20,887	**$ 8,397**	$ 9,406	**$ 95,737**	$ 89,735
30–119 days past due	**773**	804	**247**	215	**374**	444	**1,394**	1,463
120 or more days past due	**12**	9	**139**	106	**218**	246	**369**	361
Total retained loans	**$65,814**	$60,255	**$22,697**	$ 21,208	**$ 8,989**	$ 10,096	**$ 97,500**	$ 91,559
% of 30+ days past due to total retained loans	**1.19%**	1.35%	**1.70%**	1.51%	**1.38%** (d)	1.62% (d)	**1.33%** (d)	1.42% (d)
90 or more days past due and still accruing[(b)]	**$ –**	$ –	**$ –**	$ –	**$ 263**	$ 290	**$ 263**	$ 290
Nonaccrual loans	**214**	116	**286**	263	**175**	242	**675**	621
Geographic region								
California	**$ 7,975**	$ 7,186	**$ 4,158**	$ 3,530	**$ 935**	$ 1,051	**$ 13,068**	$ 11,767
Texas	**7,041**	6,457	**2,769**	2,621	**739**	839	**10,549**	9,917
New York	**4,078**	3,874	**3,510**	3,359	**1,187**	1,224	**8,775**	8,457
Illinois	**3,984**	3,678	**1,627**	1,459	**582**	679	**6,193**	5,816
Florida	**3,374**	2,843	**1,068**	941	**475**	516	**4,917**	4,300
Ohio	**2,194**	2,340	**1,366**	1,363	**490**	559	**4,050**	4,262
Arizona	**2,209**	2,033	**1,270**	1,205	**202**	236	**3,681**	3,474
Michigan	**1,567**	1,550	**1,308**	1,361	**355**	415	**3,230**	3,326
New Jersey	**2,031**	1,998	**546**	500	**320**	366	**2,897**	2,864
Louisiana	**1,814**	1,713	**961**	997	**120**	134	**2,895**	2,844
All other	**29,547**	26,583	**4,114**	3,872	**3,584**	4,077	**37,245**	34,532
Total retained loans	**$65,814**	$60,255	**$22,697**	$ 21,208	**$ 8,989**	$ 10,096	**$ 97,500**	$ 91,559
Loans by risk ratings[(c)]								
Noncriticized	**$13,899**	$11,277	**$16,858**	$ 15,504	**NA**	NA	**$ 30,757**	$ 26,781
Criticized performing	**201**	76	**816**	815	**NA**	NA	**1,017**	891
Criticized nonaccrual	**94**	–	**217**	210	**NA**	NA	**311**	210

(a) Student loan delinquency classifications included loans insured by U.S. government agencies under the Federal Family Education Loan Program ("FFELP") as follows: current included $3.3 billion and $3.8 billion; 30-119 days past due included $257 million and $299 million; and 120 or more days past due included $211 million and $227 million at December 31, 2016 and 2015, respectively.

(b) These amounts represent student loans, insured by U.S. government agencies under the FFELP. These amounts were accruing as reimbursement of insured amounts is proceeding normally.

(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.

(d) December 31, 2016 and 2015, excluded loans 30 days or more past due and still accruing, that are insured by U.S. government agencies under the FFELP, of $468 million and $526 million, respectively. These amounts were excluded as reimbursement of insured amounts is proceeding normally.

Other consumer impaired loans and loan modifications

The following table sets forth information about JPMorgan Chase Bank, N.A.'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.

December 31, (in millions)	2016	2015
Impaired loans		
With an allowance	**$ 614**	$ 527
Without an allowance[(a)]	**30**	31
Total impaired loans[(b)(c)]	**$ 644**	$ 558
Allowance for loan losses related to impaired loans	**$ 119**	$ 118
Unpaid principal balance of impaired loans[(d)]	**753**	668
Impaired loans on nonaccrual status	**508**	449

(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 $635 million, $566 million and $599 million for the years ended December 31, 2016, 2015 and 2014, respectively. The related interest income on impaired loans, including those on a cash basis, was not material for the years ended December 31, 2016, 2015 and 2014.

(d) Represents the contractual amount of principal owed at December 31, 2016 and 2015. 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 in the table above. The following table provides information about JPMorgan Chase Bank, N.A.'s other consumer loans modified in TDRs. New TDRs were not material for the years ended December 31, 2016 and 2015.

December 31, (in millions)	2016	2015
Loans modified in TDRs[a][b]	$ 362	$ 384
TDRs on nonaccrual status	226	275

(a) The impact of these modifications was not material to JPMorgan Chase Bank, N.A. for the years ended December 31, 2016 and 2015.
(b) Additional commitments to lend to borrowers whose loans have been modified in TDRs as of December 31, 2016 and 2015 were immaterial.

Purchased credit-impaired loans

PCI loans are initially recorded at fair value at acquisition. PCI loans acquired in the same fiscal quarter may be aggregated into one or more pools, provided that the loans have common risk characteristics. A pool is then accounted for as a single asset with a single composite interest rate and an aggregate expectation of cash flows. With respect to the Washington Mutual transaction, all of the consumer PCI loans were aggregated into pools of loans with common risk characteristics.

On a quarterly basis, JPMorgan Chase Bank, N.A. estimates the total cash flows (both principal and interest) expected to be collected over the remaining life of each pool. These estimates incorporate assumptions regarding default rates, loss severities, the amounts and timing of prepayments and other factors that reflect then-current market conditions. Probable decreases in expected cash flows (i.e., increased credit losses) trigger the recognition of impairment, which is then measured as the present value of the expected principal loss plus any related forgone interest cash flows, discounted at the pool's effective interest rate. Impairments are recognized through the provision for credit losses and an increase in the allowance for loan losses. Probable and significant increases in expected cash flows (e.g., decreased credit losses, the net benefit of modifications) would first reverse any previously recorded allowance for loan losses with any remaining increases recognized prospectively as a yield adjustment over the remaining estimated lives of the underlying loans. The impacts of (i) prepayments, (ii) changes in variable interest rates, and (iii) any other changes in the timing of expected cash flows are recognized prospectively as adjustments to interest income.

JPMorgan Chase Bank, N.A. continues to modify certain PCI loans. The impact of these modifications is incorporated into JPMorgan Chase Bank, N.A.'s quarterly assessment of whether a probable and significant change in expected cash flows has occurred, and the loans continue to be accounted for and reported as PCI loans. In evaluating the effect of modifications on expected cash flows, JPMorgan Chase Bank, N.A. incorporates the effect of any forgone interest and also considers the potential for redefault. JPMorgan Chase Bank, N.A. develops product-specific probability of default estimates, which are used to compute expected credit losses. In developing these probabilities of default, JPMorgan Chase Bank, N.A. considers the relationship between the credit quality characteristics of the underlying loans and certain assumptions about home prices and unemployment based upon industry-wide data. JPMorgan Chase Bank, N.A. also considers its own historical loss experience to-date based on actual redefaulted modified PCI loans.

The excess of cash flows expected to be collected over the carrying value of the underlying loans is referred to as the accretable yield. This amount is not reported on JPMorgan Chase Bank, N.A.'s Consolidated balance sheets but is accreted into interest income at a level rate of return over the remaining estimated lives of the underlying pools of loans.

If the timing and/or amounts of expected cash flows on PCI loan pools were determined not to be reasonably estimable, no interest would be accreted and the loan pools would be reported as nonaccrual loans; however, since the timing and amounts of expected cash flows for JPMorgan Chase Bank, N.A.'s PCI consumer loan pools are reasonably estimable, interest is being accreted and the loan pools are being reported as performing loans.

The liquidation of PCI loans, which may include sales of loans, receipt of payment in full from the borrower, or foreclosure, results in removal of the loans from the underlying PCI pool. When the amount of the liquidation proceeds (e.g., cash, real estate), if any, is less than the unpaid principal balance of the loan, the difference is first applied against the PCI pool's nonaccretable difference for principal losses (i.e., the lifetime credit loss estimate established as a purchase accounting adjustment at the acquisition date). When the nonaccretable difference for a particular loan pool has been fully depleted, any excess of the unpaid principal balance of the loan over the liquidation proceeds is written off against the PCI pool's allowance for loan losses. Beginning in 2014, write-offs of PCI loans also include other adjustments, primarily related to interest forgiveness modifications. Because JPMorgan Chase Bank, N.A.'s PCI loans are accounted for at a pool level, JPMorgan Chase Bank, N.A. does not recognize charge-offs of PCI loans when they reach specified stages of delinquency (i.e., unlike non-PCI consumer loans, these loans are not charged off based on FFIEC standards).

The PCI portfolio affects JPMorgan Chase Bank, N.A.'s results of operations primarily through: (i) contribution to net interest margin; (ii) expense related to defaults and servicing resulting from the liquidation of the loans; and (iii) any provision for loan losses. The PCI loans acquired in the Washington Mutual transaction were funded based on the interest rate characteristics of the loans. For example, variable-rate loans were funded with variable-rate liabilities and fixed-rate loans were funded with fixed-rate liabilities with a similar maturity profile. A net spread will be earned on the declining balance of the portfolio, which is estimated as of December 31, 2016, to have a remaining weighted-average life of 8 years.

Residential real estate – PCI loans

The table below sets forth information about JPMorgan Chase Bank, N.A.'s consumer, excluding credit card, PCI loans.

December 31, (in millions, except ratios)	Home equity		Prime mortgage		Subprime mortgage		Option ARMs		Total PCI	
	2016	2015	**2016**	2015	**2016**	2015	**2016**	2015	**2016**	2015
Carrying value(a)	$12,902	$14,989	$ 7,602	$ 8,893	$ 2,941	$ 3,263	$12,234	$13,853	$35,679	$40,998
Related allowance for loan losses(b)	1,433	1,708	829	985	–	–	49	49	2,311	2,742
Loan delinquency (based on unpaid principal balance)										
Current	$12,423	$14,387	$ 6,840	$ 7,894	$ 3,005	$ 3,232	$11,074	$12,370	$33,342	$37,883
30–149 days past due	291	322	336	424	361	439	555	711	1,543	1,896
150 or more days past due	478	633	451	601	240	380	917	1,272	2,086	2,886
Total loans	$13,192	$15,342	$ 7,627	$ 8,919	$ 3,606	$ 4,051	$12,546	$14,353	$36,971	$42,665
% of 30+ days past due to total loans	5.83%	6.22%	10.32%	11.49%	16.67%	20.22%	11.73%	13.82%	9.82%	11.21%
Current estimated LTV ratios (based on unpaid principal balance)(c)(d)										
Greater than 125% and refreshed FICO scores:										
Equal to or greater than 660	$ 69	$ 153	$ 6	$ 10	$ 7	$ 10	$ 12	$ 19	$ 94	$ 192
Less than 660	39	80	17	28	31	55	18	36	105	199
101% to 125% and refreshed FICO scores:										
Equal to or greater than 660	555	942	52	120	39	77	83	166	729	1,305
Less than 660	256	444	84	152	135	220	144	239	619	1,055
80% to 100% and refreshed FICO scores:										
Equal to or greater than 660	1,860	2,709	442	816	214	331	558	977	3,074	4,833
Less than 660	804	1,136	381	614	439	643	609	1,050	2,233	3,443
Lower than 80% and refreshed FICO scores:										
Equal to or greater than 660	6,676	6,724	3,967	4,243	919	863	6,754	7,073	18,316	18,903
Less than 660	2,183	2,265	2,287	2,438	1,645	1,642	3,783	4,065	9,898	10,410
No FICO/LTV available	750	889	391	498	177	$ 210	$ 585	$ 728	1,903	2,325
Total unpaid principal balance	$13,192	$15,342	$ 7,627	$ 8,919	$ 3,606	$ 4,051	$12,546	$14,353	$36,971	$42,665
Geographic region (based on unpaid principal balance)										
California	$ 7,899	$ 9,205	$ 4,396	$ 5,172	$ 899	$ 1,005	$ 7,128	$ 8,108	$20,322	$ 23,490
Florida	1,306	1,479	501	586	332	373	1,026	1,183	3,165	$ 3,621
New York	697	788	515	580	363	400	711	813	2,286	$ 2,581
Washington	673	819	167	194	68	81	290	339	1,198	$ 1,433
New Jersey	280	310	210	238	125	139	401	470	1,016	$ 1,157
Illinois	314	358	226	263	178	196	282	333	1,000	$ 1,150
Massachusetts	94	112	173	199	110	125	346	398	723	$ 834
Maryland	64	73	144	159	145	161	267	297	620	$ 690
Arizona	241	281	124	143	68	76	181	203	614	$ 703
Virginia	77	88	142	170	56	62	314	354	589	$ 674
All other	1,547	1,829	1,029	1,215	1,262	1,433	1,600	1,855	5,438	$ 6,332
Total unpaid principal balance	$13,192	$15,342	$ 7,627	$ 8,919	$ 3,606	$ 4,051	$12,546	$14,353	$36,971	$42,665

(a) Carrying value includes the effect of fair value adjustments that were applied to the consumer PCI portfolio at the date of acquisition.
(b) Management concluded as part of JPMorgan Chase Bank, N.A.'s regular assessment of the PCI loan pools that it was probable that higher expected credit losses would result in a decrease in expected cash flows. As a result, an allowance for loan losses for impairment of these pools has been recognized.
(c) 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.
(d) Refreshed FICO scores represent each borrower's most recent credit score, which is obtained by JPMorgan Chase Bank, N.A. on at least a quarterly basis.
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Approximately 24% of the PCI home equity portfolio are senior lien loans; the remaining balance are junior lien HELOANs or HELOCs. The following table sets forth delinquency statistics for PCI junior lien home equity loans and lines of credit based on the unpaid principal balance as of December 31, 2016 and 2015.

December 31,	Total loans		Total 30+ day delinquency rate	
(in millions, except ratios)	**2016**	2015	**2016**	2015
HELOCs:[a]				
Within the revolving period[b]	**$ 2,126**	$ 5,000	**3.67%**	4.10%
Beyond the revolving period	**7,452**	6,252	**4.03**	4.46
HELOANs	**465**	582	**5.38**	5.33
Total	**$ 10,043**	$ 11,834	**4.01%**	4.35%

(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.
(b) Substantially all undrawn HELOCs within the revolving period have been closed.
(c) Includes loans modified into fixed rate amortizing loans.

The table below sets forth the accretable yield activity for JPMorgan Chase Bank, N.A.'s PCI consumer loans for the years ended December 31, 2016, 2015 and 2014, and represents JPMorgan Chase Bank, N.A.'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.

Year ended December 31, (in millions, except ratios)	Total PCI		
	2016	2015	2014
Beginning balance	**$ 13,491**	$ 14,592	$ 16,167
Accretion into interest income	**(1,555)**	(1,700)	(1,934)
Changes in interest rates on variable-rate loans	**260**	279	(174)
Other changes in expected cash flows[a]	**(428)**	230	533
Reclassification from nonaccretable difference[b]	**–**	90	$ –
Balance at December 31	**$ 11,768**	$ 13,491	$ 14,592
Accretable yield percentage	**4.35%**	4.20%	4.19%

(a) Other changes in expected cash flows may vary from period to period as JPMorgan Chase Bank, N.A. 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.
(b) Reclassifications from the nonaccretable difference in the year ended December 31, 2015 were driven by continued improvement in home prices and delinquencies, as well as increased granularity in the impairment estimates.

Active and suspended foreclosure

At December 31, 2016 and 2015, JPMorgan Chase Bank, N.A. had PCI residential real estate loans with an unpaid principal balance of $1.7 billion and $2.3 billion, respectively, that were not included in REO, but were in the process of active or suspended foreclosure.

Credit card loan portfolio

The credit card portfolio segment includes credit card loans originated and purchased by JPMorgan Chase Bank, N.A. Delinquency rates are the primary credit quality indicator for credit card loans as they provide an early warning that borrowers may be experiencing difficulties (30 days past due); information on those borrowers that have been delinquent for a longer period of time (90 days past due) is also considered. In addition to delinquency rates, the geographic distribution of the loans provides insight as to the credit quality of the portfolio based on the regional economy.

While the borrower's credit score is another general indicator of credit quality, JPMorgan Chase Bank, N.A. does not view credit scores as a primary indicator of credit quality because the borrower's credit score tends to be a lagging indicator. However, the distribution of such scores provides a general indicator of credit quality trends within the portfolio. Refreshed FICO score information, which is obtained at least quarterly, for a statistically significant random sample of the credit card portfolio is indicated in the following table; FICO is considered to be the industry benchmark for credit scores.
JPMorgan Chase Bank, N.A. generally originates new card accounts to prime consumer borrowers. However, certain cardholders' FICO scores may decrease over time, depending on the performance of the cardholder and changes in credit score technology.

The table below sets forth information about JPMorgan Chase Bank, N.A.'s credit card loans.

As of or for the year ended December 31, (in millions, except ratios)	2016	2015
Net charge-offs	$ 876	$ 673
% of net charge-offs to retained loans	2.66%	2.37%
Loan delinquency		
Current and less than 30 days past due and still accruing	$ 35,137	$ 30,526
30–89 days past due and still accruing	315	232
90 or more days past due and still accruing	321	231
Total retained credit card loans	$ 35,773	$ 30,989
Loan delinquency ratios		
% of 30+ days past due to total retained loans	1.78%	1.49%
% of 90+ days past due to total retained loans	0.90	0.75
Credit card loans by geographic region		
California	$ 5,483	$ 4,655
Texas	3,574	3,011
New York	3,197	2,765
Florida	2,238	1,887
Illinois	2,022	1,782
New Jersey	1,574	1,392
Ohio	1,145	1,035
Pennsylvania	1,140	1,017
Colorado	971	831
Michigan	889	791
All other	13,540	11,823
Total retained credit card loans	$ 35,773	$ 30,989
Percentage of portfolio based on carrying value with estimated refreshed FICO scores(a)		
Equal to or greater than 660	84.7%	84.8%
Less than 660	13.9	12.7
No FICO available	1.4	2.5

(a) The current period percentage of portfolio based on carrying value with estimated refreshed FICO scores disclosures have been updated to reflect where the FICO score is unavailable. The prior period amounts have been revised to conform with the current presentation.

Credit card impaired loans and loan modifications

The table below sets forth information about JPMorgan Chase Bank, N.A.'s impaired credit card loans. All of these loans are considered to be impaired as they have been modified in TDRs.

December 31, (in millions)	2016	2015
Impaired credit card loans with an allowance[(a)(b)]		
Credit card loans with modified payment terms[(c)]	$ 254	$ 254
Modified credit card loans that have reverted to pre-modification payment terms[(d)]	31	34
Total impaired credit card loans[(e)]	$ 285	$ 288
Allowance for loan losses related to impaired credit card loans	$ 83	$ 91

(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) Represents credit card loans outstanding to borrowers enrolled in a credit card modification program as of the date presented.
(d) Represents credit card loans that were modified in TDRs but that have subsequently reverted back to the loans' pre-modification payment terms. At both December 31, 2016 and 2015, $22 million of loans have reverted back to the pre-modification payment terms of the loans due to noncompliance with the terms of the modified loans. The remaining $9 million and $12 million at December 31, 2016 and 2015, respectively, of these loans are to borrowers who have successfully completed a short-term modification program. JPMorgan Chase Bank, N.A. continues to report these loans as TDRs since the borrowers' credit lines remain closed.
(e) 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.

Year ended December 31, (in millions)	2016	2015	2014
Average impaired credit card loans	$ 288	$ 325	$ 458
Interest income on impaired credit card loans	14	15	22

Loan modifications

JPMorgan Chase Bank, N.A. 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. Modifications under long-term programs involve placing the customer on a fixed payment plan, generally for 60 months. JPMorgan Chase Bank, N.A. may also offer short-term programs for borrowers who may be in need of temporary relief; however, none are currently being offered. Modifications under all short- and long-term programs typically include reducing the interest rate on the credit card. Substantially all modifications are considered to be TDRs.

If the cardholder does not comply with the modified payment terms, then the credit card loan agreement reverts back to its pre-modification payment terms. Assuming that the cardholder does not begin to perform in accordance with those payment terms, the loan continues to age and will ultimately be charged-off in accordance with JPMorgan Chase Bank, N.A.'s standard charge-off policy. In addition, if a borrower successfully completes a short-term modification program, then the loan reverts back to its pre-modification payment terms. However, in most cases, JPMorgan Chase Bank, N.A. does not reinstate the borrower's line of credit.

New enrollments in these loan modification programs for the years ended December 31, 2016, 2015 and 2014, were $139 million, $111 million and $132 million, respectively.

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.

Year ended December 31, (in millions, except weighted-average data)	2016	2015	2014
Weighted-average interest rate of loans – before TDR	15.56%	14.77%	14.62%
Weighted-average interest rate of loans – after TDR	4.76	4.40	4.40
Loans that redefaulted within one year of modification[(a)]	$ 17	$ 16	$ 22

(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 interim period in which they defaulted.

For credit card loans modified in TDRs, payment default is deemed to have occurred when the loans become two payments past due. A substantial portion of these loans is expected to be charged-off in accordance with JPMorgan Chase Bank, N.A.'s standard charge-off policy. Based on historical experience, the estimated weighted-average default rate for modified credit card loans was expected to be 28.87%, 25.08% and 27.17% as of December 31, 2016, 2015 and 2014, respectively.

Wholesale loan portfolio

Wholesale loans include loans made to a variety of customers, 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. Risk ratings are used to identify the credit quality of loans and differentiate risk within the portfolio. Risk ratings on loans consider the probability of default ("PD") and the loss given default ("LGD"). The PD is the likelihood that a loan will default. The LGD is the estimated loss on the loan that would be realized upon the default of the borrower and takes into consideration collateral and structural support for each credit facility.

Management considers several factors to determine an appropriate risk rating, including the obligor's debt capacity and financial flexibility, the level of the obligor's earnings, the amount and sources for repayment, the level and nature of contingencies, management strength, and the industry and geography in which the obligor operates. JPMorgan Chase Bank, N.A.'s definition of criticized aligns with the banking regulatory definition of criticized exposures, which consist of special mention, substandard and doubtful categories. Risk ratings generally represent ratings profiles similar to those defined by S&P and Moody's. Investment-grade ratings range from "AAA/Aaa" to "BBB-/Baa3." Noninvestment-grade ratings are classified as noncriticized ("BB+/Ba1 and B-/B3") and criticized ("CCC+"/"Caa1 and below"), and the criticized portion is further subdivided into performing and nonaccrual loans, representing management's assessment of the collectibility of principal and interest. Criticized loans have a higher probability of default than noncriticized loans.

Risk ratings are reviewed on a regular and ongoing basis by Credit Risk Management and are adjusted as necessary for updated information affecting the obligor's ability to fulfill its obligations.

As noted above, the risk rating of a loan considers the industry in which the obligor conducts its operations. As part of the overall credit risk management framework, JPMorgan Chase Bank, N.A. focuses on the management and diversification of its industry and client exposures, with particular attention paid to industries with actual or potential credit concern. See Note 6 for further detail on industry concentrations.The table below provides information by class of receivable for the retained loans in the Wholesale portfolio segment.

As of or for the year ended December 31, (in millions, except ratios)	Commercial and industrial		Real estate		Financial institutions		Government agencies		Other[d]		Total retained loans	
	2016	2015	**2016**	2015	**2016**	2015	**2016**	2015	**2016**	2015	**2016**	2015
Loans by risk ratings												
Investment grade	**$ 64,094**	$ 59,648	**$ 88,434**	$74,317	**$ 28,671**	$ 24,787	**$ 15,053**	$10,266	**$ 97,002**	$ 97,902	**$293,254**	$266,920
Noninvestment grade:												
Noncriticized	**46,947**	45,451	**16,877**	17,001	**8,203**	7,616	**423**	237	**12,121**	11,467	**84,571**	81,772
Criticized performing	**6,161**	4,542	**798**	1,252	**200**	306	**6**	7	**188**	253	**7,353**	6,360
Criticized nonaccrual	**1,482**	608	**200**	222	**9**	10	**–**	–	**263**	139	**1,954**	979
Total noninvestment grade	**54,590**	50,601	**17,875**	18,475	**8,412**	7,932	**429**	244	**12,572**	11,859	**93,878**	89,111
Total retained loans	**$118,684**	$110,249	**$106,309**	$92,792	**$ 37,083**	$ 32,719	**$ 15,482**	$10,510	**$109,574**	$109,761	**$387,132**	$356,031
% of total criticized to total retained loans	**6.44%**	4.67%	**0.94 %**	1.59 %	**0.56%**	0.97 %	**0.04%**	0.07 %	**0.41%**	0.36%	**2.40%**	2.06%
% of nonaccrual loans to total retained loans	**1.25**	0.55	**0.19**	0.24	**0.02**	0.03	**–**	–	**0.24**	0.13	**0.50**	0.27
Loans by geographic distribution[a]												
Total non-U.S.	**$ 30,259**	$ 30,063	**$ 3,292**	$ 3,003	**$ 14,732**	$ 17,167	**$ 3,726**	$ 1,788	**$ 39,496**	$ 42,029	**$ 91,505**	$ 94,050
Total U.S.	**88,425**	80,186	**103,017**	89,789	**22,351**	15,552	**11,756**	8,722	**70,078**	67,732	**295,627**	261,981
Total retained loans	**$118,684**	$110,249	**$106,309**	$92,792	**$37,083**	$32,719	**$15,482**	$10,510	**$109,574**	$109,761	**$387,132**	$356,031
Net charge-offs/ (recoveries)	**$ 334**	$ 27	**$ (7)**	$ (15)	**$ –**	$ (10)	**$ –**	$ (8)	**$ 15**	$ 8	**$ 342**	$ 2
% of net charge-offs/ (recoveries) to end-of-period retained loans	**0.28%**	0.02%	**(0.01)%**	(0.02)%	**–%**	(0.03)%	**–%**	(0.08)%	**0.01%**	0.01%	**0.09%**	–%
Loan delinquency[b]												
Current and less than 30 days past due and still accruing	**$116,848**	$109,375	**$105,951**	$92,362	**$ 37,031**	$ 32,649	**$ 15,371**	$10,461	**$108,664**	$108,607	**$383,865**	$353,454
30–89 days past due and still accruing	**268**	259	**155**	193	**22**	49	**107**	43	**634**	988	**1,186**	1,532
90 or more days past due and still accruing[c]	**86**	7	**3**	15	**21**	11	**4**	6	**13**	27	**127**	66
Criticized nonaccrual	**1,482**	608	**200**	222	**9**	10	**–**	–	**263**	139	**1,954**	979
Total retained loans	**$118,684**	$110,249	**$106,309**	$92,792	**$ 37,083**	$ 32,719	**$ 15,482**	$10,510	**$109,574**	$109,761	**$387,132**	$356,031

(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.
(c) Represents loans that are considered well-collateralized and therefore still accruing interest.
(d) Other includes: individuals; SPEs; holding companies; and private education and civic organizations. For more information on exposures to SPEs, see Note 17.

The following table presents additional information on the real estate class of loans within the Wholesale portfolio for the periods indicated. Exposure consists primarily of secured commercial loans, of which multifamily is the largest segment. Multifamily lending finances acquisition, leasing and construction of apartment buildings, and includes exposure to real estate investment trusts ("REITs"). Other commercial lending largely includes financing for acquisition, leasing and construction, largely for office, retail and industrial real estate, and includes exposure to REITs. Included in real estate loans is $9.2 billion and $7.3 billion as of December 31, 2016 and 2015, respectively, of construction and development exposure consisting of loans originally purposed for construction and development, general purpose loans for builders, as well as loans for land subdivision and pre-development.

December 31, (in millions, except ratios)	Multifamily		Other Commercial		Total real estate loans	
	2016	2015	**2016**	2015	**2016**	**2015**
Real estate retained loans	**$ 71,978**	$ 64,271	**$ 34,331**	$ 28,521	**$ 106,309**	$ 92,792
Criticized	**539**	562	**459**	911	**998**	1,474
% of criticized to total real estate retained loans	**0.75%**	0.87%	**1.34%**	3.19%	**0.94%**	1.59%
Criticized nonaccrual	**$ 57**	$ 85	**$ 143**	$ 137	**$ 200**	$ 222
% of criticized nonaccrual to total real estate retained loans	**0.08%**	0.13%	**0.42%**	0.48%	**0.19%**	0.24%

Wholesale impaired loans and loan modifications

Wholesale impaired 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 16.

The table below sets forth information about JPMorgan Chase Bank, N.A.'s wholesale impaired loans.

December 31, (in millions)	Commercial and industrial		Real estate		Financial institutions		Government agencies		Other		Total retained loans	
	2016	2015	**2016**	2015	**2016**	2015	**2016**	2015	**2016**	2015	**2016**	2015
Impaired loans												
With an allowance	**$ 1,119**	$ 522	**$ 125**	$ 139	**$ 9**	$ 10	**$ –**	$ –	**$ 187**	$ 46	**$ 1,440**	$ 717
Without an allowance[(a)]	**414**	98	**87**	106	**–**	–	**–**	–	**76**	94	**577**	298
Total impaired loans	**$ 1,533**	$ 620	**$ 212**	$ 245	**$ 9**	$ 10	**$ –**	$ –	**$ 263**	$ 140	**$ 2,017** [(c)]	$ 1,015 [(c)]
Allowance for loan losses related to impaired loans	**$ 258**	$ 220	**$ 18**	$ 26	**$ 3**	$ 3	**$ –**	$ –	**$ 63**	$ 24	**$ 342**	$ 273
Unpaid principal balance of impaired loans[(b)]	**1,754**	669	**295**	352	**12**	13	**–**	–	**284**	164	**2,345**	1,198

(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 December 31, 2016 and 2015. 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 JPMorgan Chase Bank, N.A.'s average impaired loans for the years ended 2016, 2015 and 2014.

Year ended December 31, (in millions)	**2016**	2015	2014
Commercial and industrial	**$ 1,478**	$ 453	$ 241
Real estate	**210**	249	296
Financial institutions	**13**	13	16
Government agencies	**–**	1	–
Other	**213**	129	155
Total[(a)]	**$ 1,914**	$ 845	$ 708

(a) The related interest income on accruing impaired loans and interest income recognized on a cash basis were not material for the years ended December 31, 2016, 2015 and 2014.

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 $733 million and $208 million as of December 31, 2016 and 2015.

Note 16 – Allowance for credit losses

JPMorgan Chase Bank, N.A.'s allowance for loan losses covers the consumer, including credit card, portfolio segments (primarily scored) and wholesale (risk-rated) portfolio, and represents management's estimate of probable credit losses inherent in JPMorgan Chase Bank, N.A.'s retained loan portfolio. The allowance for loan losses includes a formula-based component, an asset-specific component, and a component related to PCI loans, as described below. Management also estimates an allowance for wholesale and certain consumer lending-related commitments using methodologies similar to those used to estimate the allowance on the underlying loans. During 2016, JPMorgan Chase Bank, N.A. did not make any significant changes to the methodologies or policies used to determine its allowance for credit losses; such policies are described in the following paragraphs.

Determining the appropriateness of the allowance is complex and requires judgment by management about the effect of matters that are inherently uncertain. Subsequent evaluations of the loan portfolio, in light of the factors then prevailing, may result in significant changes in the allowances for loan losses and lending-related commitments in future periods. At least quarterly, the allowance for credit losses is reviewed by the CRO, the Chief Financial Officer ("CFO") and the Controller of JPMorgan Chase and discussed with the DRPC and the Audit Committee JPMorgan Chase Bank, N.A. As of December 31, 2016, JPMorgan Chase Bank, N.A. deemed the allowance for credit losses to be appropriate (i.e., sufficient to absorb probable credit losses inherent in the portfolio).

Formula-based component

The formula-based component is based on a statistical calculation to provide for incurred credit losses in all consumer loans and performing risk-rated loans, except for any loans restructured in TDRs and PCI loans, which are calculated as a part of the asset-specific and PCI components, respectively, and are discussed later in this Note. See Note 15 for more information on TDRs and PCI loans.

Formula-based component - Consumer loans and certain lending-related commitments

The formula-based allowance for credit losses for the consumer portfolio segments is calculated by applying statistical credit loss factors (estimated PD and loss severities) to the recorded investment balances or loan-equivalent amounts of pools of loan exposures with similar risk characteristics over a loss emergence period to arrive at an estimate of incurred credit losses. Estimated loss emergence periods may vary by product and may change over time; management applies judgment in estimating loss emergence periods, using available credit information and trends. In addition, management applies judgment to the statistical loss estimates for each loan portfolio category, using delinquency trends and other risk characteristics to estimate the total incurred credit losses in the portfolio. Management uses additional statistical methods and considers actual portfolio performance, including actual losses recognized on defaulted loans and collateral valuation trends, to review the appropriateness of the primary statistical loss estimate. The economic impact of potential modifications of residential real estate loans is not included in the statistical calculation because of the uncertainty regarding the type and results of such modifications.

The statistical calculation is then adjusted to take into consideration model imprecision, external factors and current economic events that have occurred but that are not yet reflected in the factors used to derive the statistical calculation; these adjustments are accomplished in part by analyzing the historical loss experience for each major product segment. However, it is difficult to predict whether historical loss experience is indicative of future loss levels. Management applies judgment in making this adjustment, taking into account uncertainties associated with current macroeconomic and political conditions, quality of underwriting standards, borrower behavior, the potential impact of payment recasts within the HELOC portfolio, and other relevant internal and external factors affecting the credit quality of the portfolio. In certain instances, the interrelationships between these factors create further uncertainties. For example, the performance of a HELOC that experiences a payment recast may be affected by both the quality of underwriting standards applied in originating the loan and the general economic conditions in effect at the time of the payment recast. For junior lien products, management considers the delinquency and/or modification status of any senior liens in determining the adjustment. The application of different inputs into the statistical calculation, and the assumptions used by management to adjust the statistical calculation, are subject to management judgment, and emphasizing one input or assumption over another, or considering other inputs or assumptions, could affect the estimate of the allowance for credit losses for the consumer credit portfolio.

Overall, the allowance for credit losses for the consumer portfolio, including credit card, is sensitive to changes in the economic environment (e.g., unemployment rates), delinquency rates, the realizable value of collateral (e.g., housing prices), FICO scores, borrower behavior and other risk factors. While all of these factors are important determinants of overall allowance levels, changes in the various factors may not occur at the same time or at the same rate, or changes may be directionally inconsistent such that improvement in one factor may offset deterioration in the other. In addition, changes in these factors would not necessarily be consistent across all geographies or product types. Finally, it is difficult to predict the extent to which changes in these factors would ultimately affect the frequency of losses, the severity of losses or both.

Formula-based component - Wholesale loans and lending-related commitments
JPMorgan Chase Bank, N.A.'s methodology for determining the allowance for loan losses and the allowance for lending-related commitments involves the early identification of credits that are deteriorating. The formula-based component of the allowance for wholesale loans and lending-related commitments is calculated by applying statistical credit loss factors (estimated PD and LGD) to the recorded investment balances or loan-equivalent amount over a loss emergence period to arrive at an estimate of incurred credit losses.

JPMorgan Chase Bank, N.A. assesses the credit quality of its borrower or counterparty and assigns a risk rating. Risk ratings are assigned at origination or acquisition, and if necessary, adjusted for changes in credit quality over the life of the exposure. In assessing the risk rating of a particular loan or lending-related commitment, among the factors considered are the obligor's debt capacity and financial flexibility, the level of the obligor's earnings, the amount and sources for repayment, the level and nature of contingencies, management strength, and the industry and geography in which the obligor operates. These factors are based on an evaluation of historical and current information and involve subjective assessment and interpretation. Determining risk ratings involves significant judgment; emphasizing one factor over another or considering additional factors could affect the risk rating assigned by JPMorgan Chase Bank, N.A.

PD estimates are based on observable external through-the-cycle data, using credit rating agency default statistics.

An LGD estimate is assigned to each loan or lending-related commitment. The estimate represents the amount of economic loss if the obligor were to default. The type of obligor, quality of collateral, and the seniority of JPMorgan Chase Bank, N.A.'s lending exposure in the obligor's capital structure affect LGD. LGD estimates are based on JPMorgan Chase Bank, N.A.'s history of actual credit losses over more than one credit cycle. Changes to the time period used for PD and LGD estimates (for example, point-in-time loss versus longer-term views of the credit cycle) could also affect the allowance for credit losses.

JPMorgan Chase Bank, N.A. applies judgment in estimating PD, LGD, loss emergence period and loan-equivalent amounts used in calculating the allowance for credit losses. Wherever possible, JPMorgan Chase Bank, N.A. uses independent, verifiable data or JPMorgan Chase Bank, N.A.'s own historical loss experience in its models for estimating the allowances, but differences in characteristics between JPMorgan Chase Bank, N.A.'s specific loans or lending-related commitments and those reflected in external and JPMorgan Chase Bank, N.A.-specific historical data could affect loss estimates. Estimates of PD, LGD, loss emergence period and loan-equivalent used are subject to periodic refinement based on any changes to underlying external JPMorgan Chase Bank, N.A.-specific historical data. The use of different inputs, estimates or methodologies could change the amount of the allowance for credit losses determined appropriate by JPMorgan Chase Bank, N.A.

In addition to the modeled loss estimates applied to wholesale loans and lending-related commitments, management applies its judgment to adjust the modeled loss estimates for wholesale loans, taking into consideration model imprecision, external factors and economic events that have occurred but are not yet reflected in the loss factors. Historical experience of both LGD and PD are considered when estimating these adjustments. Factors related to concentrated and deteriorating industries also are incorporated where relevant. These estimates are based on management's view of uncertainties that relate to current macroeconomic, quality of underwriting standards and other relevant internal and external factors affecting the credit quality of the current portfolio.

Asset-specific component
The asset-specific component of the allowance relates to loans considered to be impaired, which includes loans that have been modified in TDRs as well as risk-rated loans that have been placed on nonaccrual status. To determine the asset-specific component of the allowance, larger loans are evaluated individually, while smaller loans are evaluated as pools using historical loss experience for the respective class of assets. Scored loans (i.e., consumer loans) are pooled by product type, while risk-rated loans (primarily wholesale loans) are segmented by risk rating.

JPMorgan Chase Bank, N.A. generally measures the asset-specific allowance as the difference between the recorded investment in the loan and the present value of the cash flows expected to be collected, discounted at the loan's original effective interest rate. Subsequent changes in impairment are reported as an adjustment to the allowance for loan losses. In certain cases, the asset-specific allowance is determined using an observable market price, and the allowance is measured as the difference between the recorded investment in the loan and the loan's fair value. Impaired collateral-dependent loans are charged down to the fair value of collateral less costs to sell. For any of these impaired loans, the amount of the asset-specific allowance required to be recorded, if any, is dependent upon the recorded investment in the loan (including prior charge-offs), expected cash flows and/or fair value of assets. See Note 15 for more information about charge-offs and collateral-dependent loans.

The asset-specific component of the allowance for impaired loans that have been modified in TDRs incorporates the effects of forgone interest, if any, in the present value calculation and also incorporates the effect of the modification on the loan's expected cash flows, which considers the potential for redefault. For residential real estate loans modified in TDRs, JPMorgan Chase Bank, N.A. develops product-specific probability of default estimates, which are applied at a loan level to compute expected losses. In developing these probabilities of default, JPMorgan Chase Bank, N.A. considers the relationship between the credit quality characteristics of the underlying loans and certain assumptions about home prices and unemployment, based upon industry-wide data. JPMorgan Chase Bank, N.A. also considers its own historical loss experience to date based on actual redefaulted modified loans. For credit card loans modified in TDRs, expected losses incorporate projected redefaults based on JPMorgan Chase Bank, N.A.'s historical experience by type of modification program. For wholesale loans modified in TDRs, expected losses incorporate management's expectation of the borrower's ability to repay under the modified terms.

Estimating the timing and amounts of future cash flows is highly judgmental as these cash flow projections rely upon estimates such as loss severities, asset valuations, default rates (including redefault rates on modified loans), the amounts and timing of interest or principal payments (including any expected prepayments) or other factors that are reflective of current and expected market conditions. These estimates are, in turn, dependent on factors such as the duration of current overall economic conditions, industry-, portfolio-, or borrower-specific factors, the expected outcome of insolvency proceedings as well as, in certain circumstances, other economic factors, including the level of future home prices. All of these estimates and assumptions require significant management judgment and certain assumptions are highly subjective.

PCI loans

In connection with the Washington Mutual transaction, JPMorgan Chase acquired certain PCI loans, which are accounted for as described in Note 14. The allowance for loan losses for the PCI portfolio is based on quarterly estimates of the amount of principal and interest cash flows expected to be collected over the estimated remaining lives of the loans.

These cash flow projections are based on estimates regarding default rates (including redefault rates on modified loans), loss severities, the amounts and timing of prepayments and other factors that are reflective of current and expected future market conditions. These estimates are dependent on assumptions regarding the level of future home prices, and the duration of current overall economic conditions, among other factors. These estimates and assumptions require significant management judgment and certain assumptions are highly subjective.

Allowance for credit losses and related information

The table below summarizes information about the allowances for loan losses, and lending-relating commitments, and includes a breakdown of loans and lending-related commitments by impairment methodology.

	2016			
Year ended December 31, (in millions)	Consumer, excluding credit card	Credit card	Wholesale	Total
Allowance for loan losses				
Beginning balance at January 1,	$ 5,803	$ 727	$ 4,277	$ 10,807
Gross charge-offs	1,502	967	398	2,867
Gross recoveries	(588)	(91)	(56)	(735)
Net charge-offs/(recoveries)	914	876	342	2,132
Write-offs of PCI loans[(a)]	156	–	–	156
Provision for loan losses	471	1,191	541	2,203
Other	(9)	–	2	(7)
Ending balance at December 31,	$ 5,195	$ 1,042	$ 4,478	$ 10,715
Allowance for loan losses by impairment methodology				
Asset-specific[(b)]	$ 308	$ 83 [(c)]	$ 342	$ 733
Formula-based	2,576	959	4,136	7,671
PCI	2,311	–	–	2,311
Total allowance for loan losses	$ 5,195	$ 1,042	$ 4,478	$ 10,715
Loans by impairment methodology				
Asset-specific	$ 8,930	$ 285	$ 2,017	$ 11,232
Formula-based	319,751	35,488	385,112	740,351
PCI	35,679	–	3	35,682
Total retained loans	$ 364,360	$ 35,773	$ 387,132	$ 787,265
Impaired collateral-dependent loans				
Net charge-offs	$ 97	$ –	$ 7	$ 104
Loans measured at fair value of collateral less cost to sell	2,390	–	300	2,690
Allowance for lending-related commitments				
Beginning balance at January 1,	$ 14	$ –	$ 772	$ 786
Provision for lending-related commitments	–	–	283	283
Other	12	–	(3)	9
Ending balance at December 31,	$ 26	$ –	$ 1,052	$ 1,078
Allowance for lending-related commitments by impairment methodology				
Asset-specific	$ –	$ –	$ 169	$ 169
Formula-based	26	–	883	909
Total allowance for lending-related commitments	$ 26	$ –	$ 1,052	$ 1,078
Lending-related commitments by impairment methodology				
Asset-specific	$ –	$ –	$ 506	$ 506
Formula-based	55,011	11,198	363,455	429,664
Total lending-related commitments	$ 55,011	$ 11,198	$ 363,961	$ 430,170

(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 (e.g., upon liquidation). During 2014, JPMorgan Chase Bank, N.A. recorded a $291 million adjustment to reduce the PCI allowance and the recorded investment in JPMorgan Chase Bank, N.A.'s PCI loan portfolio, primarily reflecting the cumulative effect of interest forgiveness modifications. This adjustment had no impact to JPMorgan Chase Bank, N.A.'s Consolidated statements of income.
(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.
(d) Effective January 1, 2015, JPMorgan Chase Bank, N.A. no longer includes within its disclosure of wholesale lending-related commitments the unused amount of advised uncommitted lines of credit as it is within JPMorgan Chase Bank, N.A.'s discretion whether or not to make a loan under these lines, and the JPMorgan Chase Bank, N.A.'s approval is generally required prior to funding. Prior period amounts have been revised to conform with the current period presentation.

(table continued from previous page)

2015				2014			
Consumer, excluding credit card	Credit card	Wholesale	Total	Consumer, excluding credit card	Credit card	Wholesale	Total
$ 6,969	$ 735	$ 3,648	$ 11,352	$ 8,354	$ 832	$ 3,948	$ 13,134
1,640	752	88	2,480	2,100	886	138	3,124
(674)	(79)	(106)	(859)	(739)	(96)	(136)	(971)
966	673	(18)	1,621	1,361	790	2	2,153
208	–	–	208	533	–	–	533
(64)	670	604	1,210	478	699	(262)	915
72	(5)	7	74	31	(6)	(36)	(11)
$ 5,803	$ 727	$ 4,277	$ 10,807	$ 6,969	$ 735	$ 3,648	$ 11,352
$ 364	$ 91 [c]	$ 273	$ 728	$ 521	$ 95 [c]	$ 87	$ 703
2,697	636	4,004	7,337	3,123	640	3,561	7,324
2,742	–	–	2,742	3,325	–	–	3,325
$ 5,803	$ 727	$ 4,277	$ 10,807	$ 6,969	$ 735	$ 3,648	$ 11,352
$ 9,595	$ 288	$ 1,015	$ 10,898	$ 11,056	$ 378	$ 637	$ 12,071
293,707	30,701	355,012	679,420	231,153	29,367	323,686	584,206
40,998	–	4	41,002	46,696	–	4	46,700
$ 344,300	$ 30,989	$ 356,031	$ 731,320	$ 288,905	$ 29,745	$ 324,327	$ 642,977
$ 104	$ –	$ 16	$ 120	$ 129	$ –	$ 21	$ 150
2,564	–	283	2,847	2,861	–	326	3,187
$ 13	$ –	$ 606	$ 619	$ 8	$ –	$ 693	$ 701
1	–	165	166	5	–	(88)	(83)
–	–	1	1	–	–	1	1
$ 14	$ –	$ 772	$ 786	$ 13	$ –	$ 606	$ 619
$ –	$ –	$ 73	$ 73	$ –	$ –	$ 60	$ 60
14	–	699	713	13	–	546	559
$ 14	$ –	$ 772	$ 786	$ 13	$ –	$ 606	$ 619
$ –	$ –	$ 193	$ 193	$ –	$ –	$ 103	$ 103
58,640	10,386	360,589	429,615	58,185	29,065	360,565 [d]	447,815
$ 58,640	$ 10,386	$ 360,782	$ 429,808	$ 58,185	$ 29,065	$ 360,668	$ 447,918

Note 17 – Variable interest entities

For a further description of JPMorgan Chase Bank, N.A.'s accounting policies regarding consolidation of VIEs, see Note 1.

The following table summarizes the most significant types of JPMorgan Chase Bank, N.A.-sponsored VIEs by each JPMorgan Chase Bank, N.A. business. JPMorgan Chase Bank, N.A. considers a "sponsored" VIE to include any entity where: (1) JPMorgan Chase Bank, N.A. is the primary beneficiary of the structure; (2) the VIE is used by JPMorgan Chase Bank, N.A. to securitize JPMorgan Chase Bank, N.A. assets; (3) the VIE issues financial instruments with the JPMorgan Chase Bank, N.A. name; or (4) the entity is a JPMorgan Chase Bank, N.A.–administered asset-backed commercial paper conduit.

JPMorgan Chase Bank, N.A. business	*Transaction Type*	*Activity*	*Consolidated Financial Statements page reference*
Consumer & community banking	Mortgage securitization trusts	Servicing and securitization of both originated and purchased residential mortgages	100–102
	Credit card securitization trusts	Securitization of both originated and purchased credit card receivables	102
Corporate & investment banking	Mortgage and other securitization trusts	Securitization of both originated and purchased residential and commercial mortgages and student loans	100–102
	Multi-seller conduits Investor intermediation activities:	Assist clients in accessing the financial markets in a cost-efficient manner and structures transactions to meet investor needs	103–105
	Municipal bond vehicles		103–104

JPMorgan Chase Bank, N.A.'s other businesses are also involved with VIEs, but to a lesser extent, as follows:

- Commercial banking business: The commercial banking business makes investments in and provides lending to community development entities that may meet the definition of a VIE. In addition, the commercial banking business provides financing and lending-related services to certain client-sponsored VIEs. In general, the commercial banking business does not control the activities of these entities, and therefore, the financial results of these entities are not consolidated by JPMorgan Chase Bank, N.A.

JPMorgan Chase Bank, N.A. also invests in and provides financing and other services to VIEs sponsored by third parties, as described on page 105 of this Note.

Significant JPMorgan Chase Bank, N.A.-sponsored variable interest entities

Mortgage and other securitization trusts

JPMorgan Chase Bank, N.A. securitizes (or has securitized) originated and purchased residential mortgages, commercial mortgages and other consumer loans (including student loans) primarily in its consumer & community banking and corporate & investment banking businesses. Depending on the particular transaction, as well as the respective business involved, JPMorgan Chase Bank, N.A. may act as the servicer of the loans and/or retain certain beneficial interests in the securitization trusts.

The following table presents the total unpaid principal amount of assets held in JPMorgan Chase Bank, N.A.-sponsored private-label securitization entities, including those in which JPMorgan Chase Bank, N.A. has continuing involvement, and those that are consolidated by JPMorgan Chase Bank, N.A. Continuing involvement includes servicing the loans, holding senior interests or subordinated interests, recourse or guarantee arrangements, and derivative transactions. In certain instances, JPMorgan Chase Bank, N.A.'s only continuing involvement is servicing the loans. See Securitization activity on page 106 of this Note for further information regarding JPMorgan Chase Bank, N.A.'s cash flows with and interests retained in nonconsolidated VIEs, and page 107 of this Note for information on JPMorgan Chase Bank, N.A.'s loan sales to U.S. government agencies.

	Principal amount outstanding			JPMorgan Chase Bank, N.A. interest in securitized assets in nonconsolidated VIEs[c][d]		
December 31, 2016 (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	AFS securities	Total interests held by JPMorgan Chase Bank, N.A.
Securitization-related[a]						
Residential mortgage:						
Prime/Alt-A and option ARMs	**$ 52,258**	**$ 4,209**	**$ 44,292**	**$ 124**	**$ 1,203**	**$ 1,327**
Subprime	**14,260**	**—**	**13,421**	**—**	**—**	**—**
Commercial and other[b]	**91,084**	**107**	**64,988**	**3**	**1,712**	**1,715**
Total	**$ 157,602**	**$ 4,316**	**$ 122,701**	**$ 127**	**$ 2,915**	**$ 3,042**

	Principal amount outstanding			JPMorgan Chase Bank, N.A. interest in securitized assets in nonconsolidated VIEs[c][d]		
December 31, 2015 (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	AFS securities	Total interests held by JPMorgan Chase Bank, N.A.
Securitization-related[a]						
Residential mortgage:						
Prime/Alt-A and option ARMs	$ 56,572	$ 835	$ 51,654	$ 57	$ 1,450	$ 1,507
Subprime	16,024	—	15,069	—	—	—
Commercial and other[b]	104,306	107	65,337	—	2,498	2,498
Total	$ 176,902	$ 942	$ 132,060	$ 57	$ 3,948	$ 4,005

(a) Excludes U.S. government agency securitizations. See page 107 of this Note for information on JPMorgan Chase Bank, N.A.'s loan sales to U.S. government agencies.
(b) Consists of securities backed by commercial loans (predominantly real estate) and non-mortgage-related consumer receivables purchased from third parties.
(c) Excludes the following: retained servicing (see Note 18 for a discussion of MSRs); securities retained from loan sales to U.S. government agencies; interest rate and foreign exchange derivatives primarily used to manage interest rate and foreign exchange risks of securitization entities (See Note 7 for further information on derivatives). There were no senior and subordinated securities purchased in connection with the corporate & investment banking business's secondary market-making activities at December 31, 2016 and 2015, respectively.
(d) As of December 31, 2016 and 2015, 88% and 96%, respectively, of JPMorgan Chase Bank, N.A.'s retained securitization interests, which are carried at fair value, were risk-rated "A" or better, on an S&P-equivalent basis. The retained interests in prime residential mortgages consisted of $1.3 billion and $1.5 billion of investment-grade and $44 million and $20 million of noninvestment-grade retained interests at December 31, 2016 and 2015, respectively. The retained interests in commercial and other securitizations trusts consisted of $1.7 billion and $2.5 billion of investment-grade and zero and $0.2 million of noninvestment-grade retained interests at December 31, 2016 and 2015, respectively.

Residential mortgage

JPMorgan Chase Bank, N.A. securitizes residential mortgage loans originated by the consumer & community banking business, as well as residential mortgage loans purchased from third parties by either the consumer & community banking business or the corporate & investment banking business. The consumer & community banking business generally retains servicing for all residential mortgage loans it originated or purchased, and for certain mortgage loans purchased by the corporate & investment banking business. For securitizations of loans serviced by the consumer & community banking business, JPMorgan Chase Bank, N.A. has the power to direct the significant activities of the VIE because it is responsible for decisions related to loan modifications and workouts. The consumer & community banking business may also retain an interest upon securitization.

In addition, the corporate & investment banking business engages in underwriting and trading activities involving securities issued by JPMorgan Chase Bank, N.A.-sponsored securitization trusts. As a result, the corporate & investment banking business at times retains senior and/or subordinated interests (including residual interests) in residential mortgage securitizations at the time of securitization, and/or reacquires positions in the secondary market in the normal course of business. In certain instances, as a result of the positions retained or reacquired by the corporate & investment banking business or held by the consumer & community banking business, when considered together with the servicing arrangements entered into by the consumer & community banking business, JPMorgan Chase Bank, N.A. is deemed to be the primary beneficiary of certain securitization trusts. See the table on page 105 of this Note for more information on consolidated residential mortgage securitizations.

JPMorgan Chase Bank, N.A. does not consolidate a residential mortgage securitization (JPMorgan Chase Bank, N.A.-sponsored or third-party-sponsored) when it is not the servicer (and therefore does not have the power to direct the most significant activities of the trust) or does not hold a beneficial interest in the trust that could potentially be significant to the trust. At December 31, 2016 and 2015, JPMorgan Chase Bank, N.A. did not consolidate the assets of certain JPMorgan Chase Bank, N.A.-sponsored residential mortgage securitization VIEs, in which it had continuing involvement, primarily due to the fact that JPMorgan Chase Bank, N.A. did not hold an interest in these trusts that could potentially be significant to the trusts. See the table on page 105 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

The corporate & investment banking business originates and securitizes commercial mortgage loans, and engages in underwriting and trading activities involving the securities issued by securitization trusts. The corporate & investment banking business may retain unsold senior and/or subordinated interests in commercial mortgage securitizations at the time of securitization but, generally, JPMorgan Chase Bank, N.A. does not service commercial loan securitizations. For commercial mortgage securitizations the power to direct the significant activities of the VIE generally is held by the servicer or investors in a specified class of securities ("controlling class"). JPMorgan Chase Bank, N.A. generally does not retain an interest in the controlling class in its sponsored commercial mortgage securitization transactions. See the table on page 105 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.

JPMorgan Chase Bank, N.A. retains servicing responsibilities for certain student loan securitizations. JPMorgan Chase Bank, N.A. has the power to direct the activities of these VIEs through these servicing responsibilities. See the table on page 105 of this Note for more information on the consolidated student loan securitizations, and the table on the previous page of this Note for further information on interests held in nonconsolidated securitizations.

Credit card securitizations

JPMorgan Chase Bank, N.A.'s involvement with credit card affiliated securitization entities sponsored by an affiliate

Prior to November 1, 2016, JPMorgan Chase Bank, N.A. sold credit card receivables to various credit card securitization trusts ("Trusts") sponsored by an affiliate. The consideration received for the sales was an undivided interest in the respective Trusts. These Trusts are consolidated by the affiliate as it is the primary beneficiary of the Trusts. On November 1, 2016, the bank sold its undivided interests in the Trusts to an affiliate. At December 31, 2016 and 2015, JPMorgan Chase Bank, N.A. had recorded zero and $5.6 billion, respectively, of undivided interests in the Trusts. These undivided interests are measured at fair value and classified as other assets.

Multi-seller conduits

Multi-seller conduit entities are separate bankruptcy remote entities that provide secured financing, collateralized by pools of receivables and other financial assets, to customers of JPMorgan Chase Bank, N.A. The conduits fund their financing facilities through the issuance of highly rated commercial paper. The primary source of repayment of the commercial paper is the cash flows from the pools of assets. In most instances, the assets are structured with deal-specific credit enhancements provided to the conduits by the customers (i.e., sellers) or other third parties. Deal-specific credit enhancements are generally structured to cover a multiple of historical losses expected on the pool of assets, and are typically in the form of overcollateralization provided by the seller. The deal-specific credit enhancements mitigate JPMorgan Chase Bank, N.A.'s potential losses on its agreements with the conduits.

To ensure timely repayment of the commercial paper, and to provide the conduits with funding to provide financing to customers in the event that the conduits do not obtain funding in the commercial paper market, each asset pool financed by the conduits has a minimum 100% deal-specific liquidity facility associated with it provided by JPMorgan Chase Bank, N.A. JPMorgan Chase Bank, N.A. also provides the multi-seller conduit vehicles with uncommitted program-wide liquidity facilities and program-wide credit enhancement in the form of standby letters of credit. The amount of program-wide credit enhancement required is based upon commercial paper issuance and approximates 10% of the outstanding balance of commercial paper.

JPMorgan Chase Bank, N.A. consolidates its JPMorgan Chase Bank, N.A.-administered multi-seller conduits, as it has both the power to direct the significant activities of the conduits and a potentially significant economic interest in the conduits. As administrative agent and in its role in structuring transactions, JPMorgan Chase Bank, N.A. makes decisions regarding asset types and credit quality, and manages the commercial paper funding needs of the conduits. JPMorgan Chase Bank, N.A.'s interests that could potentially be significant to the VIEs include the fees received as administrative agent and liquidity and program-wide credit enhancement provider, as well as the potential exposure created by the liquidity and credit enhancement facilities provided to the conduits. See page 105 of this Note for further information on consolidated VIE assets and liabilities.

In the normal course of business, JPMorgan Chase Bank, N.A. makes markets in and invests in commercial paper issued by JPMorgan Chase Bank, N.A.-administered multi-seller conduits. JPMorgan Chase Bank, N.A. held $21.2 billion and $15.7 billion of the commercial paper issued by JPMorgan Chase Bank, N.A.-administered multi-seller conduits at December 31, 2016 and 2015, respectively. JPMorgan Chase Bank, N.A.'s investments reflect its funding needs and capacity and were not driven by market illiquidity. JPMorgan Chase Bank, N.A. is not obligated under any agreement to purchase the commercial paper issued by JPMorgan Chase Bank, N.A.-administered multi-seller conduits.

JPMorgan Chase Bank, N.A. provides deal-specific liquidity as well as program-wide liquidity and credit enhancement to its administered multi-seller conduits, which have been eliminated in consolidation. The administered multi-seller conduits then provide certain of their clients with lending-related commitments. The unfunded commitments were $7.4 billion and $5.6 billion at December 31, 2016 and 2015, respectively, and are reported as off-balance sheet lending-related commitments. For more information on off-balance sheet lending-related commitments, see Note 27.

VIEs associated with investor intermediation activities

As a financial intermediary, JPMorgan Chase Bank, N.A. creates certain types of VIEs and also structures transactions with these VIEs, typically using derivatives, to meet investor needs. JPMorgan Chase Bank, N.A. may also provide liquidity and other support. The risks inherent in the derivative instruments or liquidity commitments are managed similarly to other credit, market or liquidity risks to which JPMorgan Chase Bank, N.A. is exposed. The principal types of VIEs for which JPMorgan Chase Bank, N.A. is engaged in on behalf of clients are municipal bond vehicles.

Municipal bond vehicles

Municipal bond vehicles or tender option bond ("TOB") trusts allow investors to finance their municipal bond investments at short-term rates. In a typical TOB transaction, the trust purchases highly rated municipal bond(s) of a single issuer and funds the purchase by issuing two types of securities: (1) puttable floating-rate certificates ("Floaters") and (2) inverse floating-rate residual interests ("Residuals"). The Floaters are typically purchased by money market funds or other short-term investors and may be tendered, with requisite notice, to the TOB trust. The Residuals are retained by the investor seeking to finance its municipal bond investment. TOB transactions where the Residual is held by a third party investor are typically known as Customer TOB trusts, and Non-Customer TOB trusts are transactions where the Residual is retained by JPMorgan Chase Bank, N.A. JPMorgan Chase Bank, N.A. serves as sponsor for all Non-Customer TOB transactions and certain Customer TOB transactions established prior to 2014. JPMorgan Chase Bank, N.A. may provide various services to a TOB trust, including liquidity or tender option provider, and/or sponsor.

JPMorgan Chase Bank, N.A. often serves as the sole liquidity or tender option provider for the TOB trusts. The liquidity provider's obligation to perform is conditional and is limited by certain events ("Termination Events"), which include bankruptcy or failure to pay by the municipal bond issuer or credit enhancement provider, an event of taxability on the municipal bonds or the immediate downgrade of the municipal bond to below investment grade. In addition, the

liquidity provider's exposure is typically further limited by the high credit quality of the underlying municipal bonds, the excess collateralization in the vehicle, or, in certain transactions, the reimbursement agreements with the Residual holders.

Holders of the Floaters may "put," or tender, their Floaters to the TOB trust. If the remarketing agent cannot successfully remarket the Floaters to another investor, the liquidity provider either provides a loan to the TOB trust for the TOB trust's purchase of the Floaters, or it directly purchases the tendered Floaters. In certain Customer TOB transactions, JPMorgan Chase Bank, N.A., as liquidity provider, has entered into a reimbursement agreement with the Residual holder. In those transactions, upon the termination of the vehicle, if the proceeds from the sale of the underlying municipal bonds are not sufficient to repay amounts owed to JPMorgan Chase Bank, N.A., as liquidity or tender option provider, JPMorgan Chase Bank, N.A. has recourse to the third party Residual holders for any shortfall. Residual holders with reimbursement agreements are required to post collateral with JPMorgan Chase Bank, N.A. to support such reimbursement obligations should the market value of the underlying municipal bonds decline. JPMorgan Chase Bank, N.A. does not have any intent to protect Residual holders from potential losses on any of the underlying municipal bonds.

TOB trusts are considered to be variable interest entities. JPMorgan Chase Bank, N.A. consolidates Non-Customer TOB trusts because as the Residual holder, JPMorgan Chase Bank, N.A. has the right to make decisions that significantly impact the economic performance of the municipal bond vehicle, and it has the right to receive benefits and bear losses that could potentially be significant to the municipal bond vehicle. JPMorgan Chase Bank, N.A. does not consolidate Customer TOB trusts, since JPMorgan Chase Bank, N.A. does not have the power to make decisions that significantly impact the economic performance of the municipal bond vehicle. Certain non-consolidated Customer TOB trusts are sponsored by a third party, and not JPMorgan Chase Bank, N.A. See page 105 of this Note for further information on consolidated municipal bond vehicles.

JPMorgan Chase Bank, N.A.'s exposure to nonconsolidated municipal bond VIEs at December 31, 2016 and 2015, including the ratings profile of the VIEs' assets, was as follows.

December 31, (in millions)	Fair value of assets held by VIEs	Liquidity facilities	Excess/(deficit)[(a)]	Maximum exposure
Nonconsolidated municipal bond vehicles				
2016	**$ 1,096**	**$ 662**	**$ 434**	**$ 662**
2015	6,937	3,794	3,143	3,794

	Ratings profile of VIE assets[(b)]						
	Investment-grade						
December 31, (in millions, except where otherwise noted)	AAA to AAA-	AA+ to AA-	A+ to A-	BBB+ to BBB-	Unrated[(c)]	Fair value of assets held by VIEs	Wt. avg. expected life of assets (years)
2016	**$ 264**	**$ 700**	**$ 43**	**$ 24**	**$ 65**	**$ 1,096**	**1.6**
2015	1,743	4,631	448	24	91	6,937	4.0

(a) Represents the excess/(deficit) of the fair values of municipal bond assets available to repay the liquidity facilities, if drawn.
(b) The ratings scale is presented on an S&P-equivalent basis.
(c) These security positions have been defeased by the municipality and no longer carry credit ratings, but are backed by high-quality assets such as U.S. treasuries and cash.

VIEs sponsored by third parties

JPMorgan Chase Bank, N.A. enters into transactions with VIEs structured by other parties. These include, for example, acting as a derivative counterparty, liquidity provider, investor, underwriter, placement 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 JPMorgan Chase Bank, N.A. 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, JPMorgan Chase Bank, N.A. 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.

Consolidated VIE assets and liabilities

The following table presents information on assets and liabilities related to VIEs consolidated by JPMorgan Chase Bank, N.A. as of December 31, 2016 and 2015.

	Assets				Liabilities		
December 31, 2016 (in millions)	Trading assets	Loans	Other[c]	Total assets[d]	Beneficial interests in VIE assets[e]	Other[f]	Total liabilities
VIE program type[a]							
JPMorgan Chase Bank, N.A.-administered multi-seller conduits	**$ –**	**$ 23,760**	**$ 43**	**$ 23,803**	**$ 2,719**	**$ 56**	**$ 2,775**
Municipal bond vehicles	**2,540**	**–**	**5**	**2,545**	**2,673**	**2**	**2,675**
Mortgage securitization entities[b]	**–**	**4,246**	**103**	**4,349**	**355**	**313**	**668**
Student loan securitization entities	**–**	**1,689**	**59**	**1,748**	**1,527**	**4**	**1,531**
Other	**115**	**–**	**1,940**	**2,055**	**177**	**2**	**179**
Total	**$ 2,655**	**$ 29,695**	**$ 2,150**	**$ 34,500**	**$ 7,451**	**$ 377**	**$ 7,828**

	Assets				Liabilities		
December 31, 2015 (in millions)	Trading assets	Loans	Other[c]	Total assets[d]	Beneficial interests in VIE assets[e]	Other[f]	Total liabilities
VIE program type[a]							
JPMorgan Chase Bank, N.A.-administered multi-seller conduits	$ –	$ 24,388	$ 37	$ 24,425	$ 8,724	$ 34	$ 8,758
Municipal bond vehicles	2,317	–	2	2,319	2,263	1	2,264
Mortgage securitization entities[b]	–	1,434	9	1,443	–	644	644
Student loan securitization entities	–	1,925	62	1,987	1,760	5	1,765
Other	174	–	1,464	1,638	105	7	112
Total	$ 2,491	$ 27,747	$ 1,574	$ 31,812	$ 12,852	$ 691	$ 13,543

(a) Excludes intercompany transactions, which are eliminated in consolidation.
(b) Includes residential and commercial mortgage securitizations.
(c) Includes assets classified as cash, AFS securities, and other assets on the Consolidated balance sheets.
(d) The assets of the consolidated VIEs included in the program types above are used to settle the liabilities of those entities. The difference between total assets and total liabilities recognized for consolidated VIEs represents JPMorgan Chase Bank, N.A.'s interest in the consolidated VIEs for each program type.
(e) 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 do not have recourse to the general credit of JPMorgan Chase Bank, N.A. Included in beneficial interests in VIE assets are long-term beneficial interests of $2.1 billion and $1.9 billion at December 31, 2016 and 2015, respectively. The maturities of the long-term beneficial interests as of December 31, 2016, were as follows: $137 million under one year, $40 million between one and five years, and $1.9 billion over five years.
(f) Includes liabilities classified as accounts payable and other liabilities on the Consolidated balance sheets.

Loan securitizations

JPMorgan Chase Bank, N.A. has securitized and sold a variety of loans, including residential mortgage, credit card, student and commercial (primarily related to real estate) loans, as well as debt securities. The purposes of these securitization transactions were to satisfy investor demand and to generate liquidity for JPMorgan Chase Bank, N.A.

For loan securitizations in which JPMorgan Chase Bank, N.A. is not required to consolidate the trust, JPMorgan Chase Bank, N.A. records the transfer of the loan receivable to the trust as a sale when all of the following accounting criteria for a sale are met: (1) the transferred financial assets are legally isolated from JPMorgan Chase Bank, N.A.'s creditors; (2) the transferee or beneficial interest holder can pledge or exchange the transferred financial assets; and (3) JPMorgan Chase Bank, N.A. does not maintain effective control over the transferred financial assets (e.g., JPMorgan Chase Bank, N.A. cannot repurchase the transferred assets before their maturity and it does not have the ability to unilaterally cause the holder to return the transferred assets).

For loan securitizations accounted for as a sale, JPMorgan Chase Bank, N.A. recognizes a gain or loss based on the difference between the value of proceeds received (including cash, beneficial interests, or servicing assets received) and the carrying value of the assets sold. Gains and losses on securitizations are reported in noninterest revenue.

Securitization activity

The following table provides information related to JPMorgan Chase Bank, N.A.'s securitization activities for the years ended December 31, 2016, 2015 and 2014, related to assets held in JPMorgan Chase Bank, N.A.-sponsored securitization entities that were not consolidated by JPMorgan Chase Bank, N.A., and where sale accounting was achieved based on the accounting rules in effect at the time of the securitization.

	2016			2015			2014		
Year ended December 31, (in millions, except rates)	Credit card[b]	Residential mortgage[c]	Commercial and other[d]	Credit card[b]	Residential mortgage[c]	Commercial and other[d]	Credit card[b]	Residential mortgage[c]	Commercial and other[d]
Principal securitized	**$ 3,320**	**$ 1,817**	**$ 8,964**	$ 3,330	$ 3,008	$ 11,983	$ 3,340	$ 2,558	$ 11,911
Pretax gain/(loss)	**(1)**	**–** [e]	**–** [e]	(2)	– [e]	– [e]	2	– [e]	– [e]
All cash flows during the period:									
Proceeds received from loan sales as cash	**$ 3,320**	**$ 1,831**	**$ 9,094**	$ 3,330	$ 2,077	$ 11,661	$ 3,340	$ 2,324	$ 11,707
Proceeds received from loan sales as securities in Level 2	**–**	**–**	**–**	–	945	350	–	245	372
Total proceeds received from loan sales	**$ 3,320**	**$ 1,831**	**$ 9,094**	$ 3,330	$ 3,022	$ 12,011	$ 3,340	$ 2,569	$ 12,079
Servicing fees collected	**–**	**477**	**3**	–	528	3	–	557	3
Proceeds from collections reinvested in revolving securitizations	**38,991**	**–**	**–**	44,734	–	–	44,364	–	–
Purchases of previously transferred financial assets (or the underlying collateral)[a]	**–**	**37**	**–**	–	2	–	–	109	–
Cash flows received on interests	**9,317**	**408**	**830**	15,309	321	533	14,397	97	183

(a) Includes cash paid by JPMorgan Chase Bank, N.A. to reacquire assets from off-balance sheet, nonconsolidated entities – for example, loan repurchases due to representation and warranties and servicer clean-up calls.
(b) Includes securitization activity related to JPMorgan Chase Bank, N.A.'s undivided interest in credit card securitization trusts.
(c) Includes prime/Alt-A, subprime, and option ARMs. Excludes certain loan securitization transactions entered into with Ginnie Mae, Fannie Mae and Freddie Mac.
(d) Includes commercial mortgage and student loan securitizations.
(e) JPMorgan Chase Bank, N.A. elected the fair value option for loans pending securitization. The carrying value of these loans accounted for at fair value approximated the proceeds received from securitization.

Loans and excess MSRs sold to U.S. government-sponsored enterprises, loans in securitization transactions pursuant to Ginnie Mae guidelines, and other third-party-sponsored securitization entities

In addition to the amounts reported in the securitization activity tables above, JPMorgan Chase Bank, N.A., 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. government sponsored enterprises ("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). JPMorgan Chase Bank, N.A.also sells loans into securitization transactions pursuant to Ginnie Mae guidelines; these loans are typically insured or guaranteed by another U.S. government agency. JPMorgan Chase Bank, N.A. does not consolidate the securitization vehicles underlying these transactions as it is not the primary beneficiary. For a limited number of loan sales, JPMorgan Chase Bank, N.A. is obligated to share a portion of the credit risk associated with the sold loans with the purchaser. See Note 27 for additional information about JPMorgan Chase Bank, N.A.'s loan sales- and securitization-related indemnifications.

See Note 18 for additional information about the impact of JPMorgan Chase Bank, N.A.'s sale of certain excess MSRs.

The following table summarizes the activities related to loans sold to the U.S. GSEs, loans in securitization transactions pursuant to Ginnie Mae guidelines, and other third-party-sponsored securitization entities.

Year ended December 31, (in millions)	2016	2015	2014
Carrying value of loans sold	**$ 52,869**	$ 42,161	$ 55,802
Proceeds received from loan sales as cash	**$ 592**	$ 313	$ 260
Proceeds from loans sales as securities[(a)]	**51,852**	41,615	55,117
Total proceeds received from loan sales[(b)]	**$ 52,444**	$ 41,928	$ 55,377
Gains on loan sales[(c)(d)]	**$ 222**	$ 299	$ 316

(a) Predominantly includes securities from U.S. GSEs and Ginnie Mae that are generally sold shortly after receipt.
(b) Excludes the value of MSRs retained upon the sale of loans.
(c) Gains on loan sales include the value of MSRs.
(d) 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 JPMorgan Chase Bank, N.A.'s obligation to repurchase certain loans due to material breaches of representations and warranties as discussed in Note 27, JPMorgan Chase Bank, N.A. 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. JPMorgan Chase Bank, N.A. 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 JPMorgan Chase Bank, N.A.'s repurchase option becomes exercisable, such loans must be reported on the Consolidated balance sheets as a loan with a corresponding liability. As of December 31, 2016 and 2015, JPMorgan Chase Bank, N.A. had recorded on its Consolidated balance sheets $9.5 billion and $11.0 billion, respectively, of loans that either had been repurchased or for which JPMorgan Chase Bank, N.A. had an option to repurchase. Predominantly all of these amounts relate to loans that have been repurchased from Ginnie Mae loan pools. Additionally, at December 31, 2016 and 2015, JPMorgan Chase Bank, N.A. had real estate owned of $142 million and $343 million, respectively, and certain foreclosed government-guaranteed residential mortgage loans included in accrued interest and accounts receivable of $1.0 billion and $1.1 billion, respectively, resulting from voluntary repurchases of loans. Substantially all of these loans and real estate are insured or guaranteed by U.S. government agencies. For additional information, refer to Note 15.

JPMorgan Chase Bank, N.A.'s interest in securitized assets held at fair value

The following table outlines the key economic assumptions used to determine the fair value, as of December 31, 2016 and 2015, of certain of JPMorgan Chase Bank, N.A.'s retained interests in nonconsolidated VIEs (other than MSRs), that are valued using modeling techniques. The table also outlines the sensitivities of those fair values to immediate 10% and 20% adverse changes in assumptions used to determine fair value. For a discussion of MSRs, see Note 18.

December 31, (in millions, except rates and where otherwise noted)	Credit card[c] 2015
JPMorgan Chase Bank, N.A. interests in securitized assets[a]	$ 5,643
Weighted-average life (in years)	0.3
Weighted-average constant prepayment rate[b]	28.6% PPR
Impact of 10% adverse change	$ (21)
Impact of 20% adverse change	(42)
Weighted-average loss assumption	2.4%
Impact of 10% adverse change	$ (13)
Impact of 20% adverse change	(25)
Weighted-average discount rate	12.0%
Impact of 10% adverse change	$ (1)
Impact of 20% adverse change	(1)

(a) JPMorgan Chase Bank, N.A.'s interests in prime mortgage securitizations were $10 million and $58 million, as of December 31, 2016 and 2015, respectively. These prime mortgage securitizations include retained interests in Alt-A loans. JPMorgan Chase Bank, N.A. had no interests in subprime mortgage securitizations as of December 31, 2016 and 2015.
(b) PPR: principal payment rate
(c) At December 31, 2016, JPMorgan Chase Bank, N.A. had no undivided interests in credit card securitization trusts. At December 31, 2015, includes securitization activity related to JPMorgan Chase Bank, N.A.'s undivided interests in credit card securitization trusts.

The sensitivity analysis in the preceding table is hypothetical. Changes in fair value based on a 10% or 20% variation in assumptions generally cannot be extrapolated easily, because the relationship of the change in the assumptions to the change in fair value may not be linear. Also, in the 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 might counteract or magnify the sensitivities. The above sensitivities also do not reflect risk management practices JPMorgan Chase Bank, N.A. may undertake to mitigate such risks.

Loan delinquencies and liquidation losses

The table below includes information about components of nonconsolidated securitized financial assets held in JPMorgan Chase Bank, N.A.-sponsored private-label securitization entities, in which JPMorgan Chase Bank, N.A. has continuing involvement, and delinquencies as of December 31, 2016 and 2015.

As of or for the year ended December 31, (in millions)	Securitized assets		90 days past due		Liquidation losses	
	2016	2015	**2016**	2015	**2016**	2015
Securitized loans[a]						
Residential mortgage:						
Prime/ Alt-A & option ARMs	**$ 44,292**	$ 51,654	**$ 4,050**	$ 5,411	**$ 680**	$ 1,194
Subprime	**13,421**	15,069	**2,635**	3,516	**722**	925
Commercial and other	**64,988**	65,337	**1,440**	1,634	**492**	324
Total loans securitized	**$ 122,701**	$ 132,060	**$ 8,125**	$ 10,561	**$ 1,894**	$ 2,443

(a) Total assets held in securitization-related SPEs were $157.6 billion and $176.9 billion, respectively, at December 31, 2016 and 2015. The $122.7 billion and $132.1 billion, respectively, of loans securitized at December 31, 2016 and 2015, excludes: $30.6 billion and $43.9 billion, respectively, of securitized loans in which JPMorgan Chase Bank, N.A. has no continuing involvement, and $4.3 billion and $942 million, respectively, of loan securitizations consolidated on JPMorgan Chase Bank, N.A.'s Consolidated balance sheets at December 31, 2016 and 2015.

Note 18 – Goodwill and Mortgage servicing rights

Goodwill

Goodwill is recorded upon completion of a business combination as the difference between the purchase price and the fair value of the net assets acquired. Subsequent to initial recognition, goodwill is not amortized but is tested for impairment during the fourth quarter of each fiscal year, or more often if events or circumstances, such as adverse changes in the business climate, indicate there may be impairment.

The following table presents changes in the carrying amount of goodwill.

Year ended December 31, (in millions)	2016	2015	2014
Balance at beginning of period[(a)]	**$ 27,100**	$ 27,282	$ 27,344
Changes during the period from:			
Business combinations	–	28	39
Dispositions	–	(59)	(1)
Other[(b)]	**30**	(151)	(100)
Balance at December 31,[(a)]	**$ 27,130**	$ 27,100	$ 27,282

(a) Reflects gross goodwill balances as JPMorgan Chase Bank, N.A. has not recognized any impairment losses to date.
(b) Includes foreign currency translation adjustments and other tax-related adjustments.

Impairment testing

Goodwill was not impaired at December 31, 2016, or 2015.

The goodwill impairment test is performed in two steps. In the first step, the current fair value of JPMorgan Chase Bank, N.A. is compared with its carrying value, including goodwill. If the fair value is in excess of the carrying value (including goodwill), then the goodwill is considered not to be impaired. If the fair value is less than the carrying value (including goodwill), then a second step is performed. In the second step, the implied current fair value of the goodwill is determined by comparing the fair value of JPMorgan Chase Bank, N.A. (as determined in step one) to the fair value of the net assets of JPMorgan Chase Bank, N.A. as if it was being acquired in a business combination. The resulting implied current fair value of goodwill is then compared with the carrying value of JPMorgan Chase Bank, N.A.'s goodwill. If the carrying value of the goodwill exceeds its implied current fair value, then an impairment charge is recognized for the excess. If the carrying value of goodwill is less than its implied current fair value, then no goodwill impairment is recognized.

Declines in business performance, increases in credit losses, increases in equity capital requirements, as well as deterioration in economic or market conditions, estimates of adverse regulatory or legislative changes or increases in the estimated market cost of equity, could cause the estimated fair values of JPMorgan Chase Bank, N.A.'s 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.

As permitted by U.S. GAAP, JPMorgan Chase Bank, N.A. has elected to account for its MSRs at fair value. JPMorgan Chase Bank, N.A. treats its MSRs as a single class of servicing assets based on the availability of market inputs used to measure the fair value of its MSR asset and its treatment of MSRs as one aggregate pool for risk management purposes. JPMorgan Chase Bank, N.A. estimates the fair value of MSRs using an option-adjusted spread ("OAS") model, which projects MSR cash flows over multiple interest rate scenarios in conjunction with JPMorgan Chase Bank, N.A.'s prepayment model, and then discounts these cash flows at risk-adjusted rates. The model considers portfolio characteristics, contractually specified servicing fees, prepayment assumptions, delinquency rates, costs to service, late charges and other ancillary revenue, and other economic factors. JPMorgan Chase Bank, N.A. compares fair value estimates and assumptions to observable market data where available, and also considers recent market activity and actual portfolio experience.

The fair value of MSRs is sensitive to changes in interest rates, including their effect on prepayment speeds. MSRs typically decrease in value when interest rates decline because declining interest rates tend to increase prepayments and therefore reduce the expected life of the net servicing cash flows that comprise the MSR asset. Conversely, securities (e.g., mortgage-backed securities), principal-only certificates and certain derivatives (i.e., those for which JPMorgan Chase Bank, N.A. receives fixed-rate interest payments) increase in value when interest rates decline. JPMorgan Chase Bank, N.A. uses combinations of derivatives and securities to manage the risk of changes in the fair value of MSRs. The intent is to offset any interest-rate related changes in the fair value of MSRs with changes in the fair value of the related risk management instruments.

The following table summarizes MSR activity for the years ended December 31, 2016, 2015 and 2014.

As of or for the year ended December 31, (in millions, except where otherwise noted)	2016	2015	2014
Fair value at beginning of period	**$ 6,608**	$ 7,436	$ 9,614
MSR activity:			
Originations of MSRs	**679**	550	757
Purchase of MSRs	**—**	435	11
Disposition of MSRs[(a)]	**(109)**	(486)	(209)
Net additions	**570**	499	559
Changes due to collection/realization of expected cash flows	**(919)**	(922)	(911)
Changes in valuation due to inputs and assumptions:			
Changes due to market interest rates and other[(b)]	**(72)**	(160)	(1,608)
Changes in valuation due to other inputs and assumptions:			
Projected cash flows (e.g., cost to service)	**(35)**	(112)	133
Discount rates	**7**	(10)	(459) [(e)]
Prepayment model changes and other[(c)]	**(63)**	(123)	108
Total changes in valuation due to other inputs and assumptions	**(91)**	(245)	(218)
Total changes in valuation due to inputs and assumptions	**$ (163)**	$ (405)	$ (1,826)
Fair value at December 31,	**$ 6,096**	$ 6,608	$ 7,436
Change in unrealized gains/(losses) included in income related to MSRs held at December 31,	**$ (163)**	$ (405)	$ (1,826)
Contractual service fees, late fees and other ancillary fees included in income	**$ 2,124**	$ 2,533	$ 2,884
Third-party mortgage loans serviced at December 31, (in billions)	**$ 593.3**	$ 677.0	$ 756.1
Servicer advances, net of an allowance for uncollectible amounts, at December 31, (in billions)[(d)]	**$ 4.7**	$ 6.5	$ 8.5

(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; JPMorgan Chase Bank, N.A. 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 JPMorgan Chase Bank, N.A. 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. JPMorgan Chase Bank, N.A.'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, JPMorgan Chase Bank, N.A. 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) For the year ending December 31, 2014, the negative impact was primarily related to higher capital allocated to the Mortgage Servicing business, which, in turn, resulted in an increase in the OAS. The resulting OAS assumption was consistent with capital and return requirements JPMorgan Chase Bank, N.A. believed a market participant would consider, taking into account factors such as the operating risk environment and regulatory and economic capital requirements.

The table below outlines the key economic assumptions used to determine the fair value of JPMorgan Chase Bank, N.A.'s MSRs at December 31, 2016 and 2015, and outlines the sensitivities of those fair values to immediate adverse changes in those assumptions, as defined below.

December 31, (in millions, except rates)	2016	2015
Weighted-average prepayment speed assumption ("CPR")	**9.41%**	9.81%
Impact on fair value of 10% adverse change	**$ (231)**	$ (275)
Impact on fair value of 20% adverse change	**(445)**	(529)
Weighted-average option adjusted spread	**8.55%**	9.54%
Impact on fair value of 100 basis points adverse change	**$ (248)**	$ (258)
Impact on fair value of 200 basis points adverse change	**(477)**	(498)

CPR: Constant prepayment rate.

The sensitivity analysis in the preceding table is hypothetical and should be used with caution. Changes in fair value based on variation 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 19 – Premises and equipment

Premises and equipment, including leasehold improvements, are carried at cost less accumulated depreciation and amortization. JPMorgan Chase Bank, N.A. computes depreciation using the straight-line method over the estimated useful life of an asset. For leasehold improvements, JPMorgan Chase Bank, N.A. uses the straight-line method computed over the lesser of the remaining term of the leased facility or the estimated useful life of the leased asset.

JPMorgan Chase Bank, N.A. capitalizes certain costs associated with the acquisition or development of internal-use software. Once the software is ready for its intended use, these costs are amortized on a straight-line basis over the software's expected useful life and reviewed for impairment on an ongoing basis.

Note 20 – Deposits

At December 31, 2016 and 2015, noninterest-bearing and interest-bearing deposits were as follows.

December 31, (in millions)	**2016**	2015
U.S. offices		
Noninterest-bearing	**$ 405,536**	$ 396,277
Interest-bearing (included **$12,298** and $11,247 at fair value)[a]	**830,735**	681,103
Total deposits in U.S. offices	**1,236,271**	1,077,380
Non-U.S. offices		
Noninterest-bearing	**15,072**	14,609 [b]
Interest-bearing (included **$1,667** and $1,600 at fair value)[a]	**228,895**	220,951 [b]
Total deposits in non-U.S. offices	**243,967**	235,560
Total deposits	**$ 1,480,238**	$ 1,312,940

(a) Includes structured notes classified as deposits for which the fair value option has been elected. For further discussion, see Note 5.
(b) Prior periods have been revised to conform with the current period presentation.

At December 31, 2016 and 2015, time deposits in denominations of $250,000 or more were as follows.

December 31, (in millions)	**2016**	2015
U.S. offices	**$ 39,598**	$ 44,473
Non-U.S. offices	**57,349**	55,731
Total	**$ 96,947**	$ 100,204

At December 31, 2016, the maturities of interest-bearing time deposits were as follows.

December 31, 2016 (in millions)	U.S.	Non-U.S.	**Total**
2017	$ 29,827	$ 55,866	$ 85,693
2018	19,571	1,263	20,834
2019	2,084	68	2,152
2020	2,016	38	2,054
2021	3,992	187	4,179
After 5 years	3,892	–	3,892
Total	$ 61,382	$ 57,422	$ 118,804

Note 21 – Long-term debt

JPMorgan Chase Bank, N.A. issues long-term debt denominated in various currencies, predominantly U.S. dollars, with both fixed and variable interest rates. Included in senior and subordinated debt below are various equity-linked or other indexed instruments, which JPMorgan Chase Bank, N.A. has elected to measure at fair value. Changes in fair value are recorded in principal transactions revenue in the Consolidated statements of income. The following table is a summary of long-term debt carrying values (including unamortized premiums and discounts, issuance costs, valuation adjustments and fair value adjustments, where applicable) by remaining contractual maturity as of December 31, 2016.

By remaining maturity at December 31, (in millions, except rates)		2016				2015
		Under 1 year	1-5 years	After 5 years	**Total**	Total
Long-term debt payable to JPMorgan Chase & Co. and affiliates						
Senior debt:	Variable rate	**$ 767**	**$ 20,522**	**$ 91**	**$ 21,380**	$ 12,812
	Interest rates[a]	**–%**	**0.91%**	**–%**	**0.91%**	0.73%
Subordinated debt:	Variable rate	**$ –**	**$ 250**	**$ –**	**$ 250**	$ 250
	Interest rates[a]	**–%**	**2.80%**	**–%**	**2.80%**	2.40%
	Subtotal	**$ 767**	**$ 20,772**	**$ 91**	**$ 21,630**	$ 13,062
Long-term debt issued to unrelated parties						
Federal Home Loan Banks ("FHLB") advances:	Fixed rate	**$ 5**	**$ 31**	**$ 143**	**$ 179**	$ 191
	Variable rate	**5,640**	**41,400**	**11,000**	**58,040**	61,090
	Interest rates[a]	**0.84-0.99%**	**0.83-1.13%**	**0.41-0.67%**	**0.41-1.13%**	0.17-0.72%
Senior debt:	Fixed rate	**$ 314**	**$ 2,878**	**$ 4,685**	**$ 7,877**	$ 5,462
	Variable rate	**3,742**	**9,198**	**2,581**	**15,521**	20,547
	Interest rates[a]	**1.29-1.36%**	**0.00-4.61%**	**1.30-7.28%**	**0.00-7.28%**	0.47-7.28%
Subordinated debt:	Fixed rate	**$ 3,562**	**$ –**	**$ 322**	**$ 3,884**	$ 6,581
	Variable rate	**–**	**–**	**–**	**–**	1,150
	Interest rates[a]	**6.00%**	**–%**	**8.25%**	**6.00-8.25%**	0.83-8.25%
	Subtotal	**$ 13,263**	**$ 53,507**	**$ 18,731**	**$ 85,501**	$ 95,021
Preferred securities of subsidiaries, issued to affiliates[b]:	Fixed rate					$ 600
	Interest rates[a]	**–%**	**–%**	**–%**	**–%**	7.00-8.20%
	Subtotal	**$ –**	**$ –**	**$ –**	**$ –**	$ 600
Total long-term debt[c][d][e]		**$ 14,030**	**$ 74,279**	**$ 18,822**	**$ 107,131** [g][h]	$ 108,683
Long-term beneficial interests:						
	Fixed rate	**$ 67**	**$ 40**	**$ –**	**$ 107**	$ –
	Variable rate	**70**	**–**	**1,882**	**1,952**	1,865
	Interest rates	**2.50-3.02%**	**2.50%**	**1.07-3.75%**	**1.07-3.75%**	0.67-2.82%
Total long-term beneficial interests[f]		**$ 137**	**$ 40**	**$ 1,882**	**$ 2,059**	$ 1,865

(a) The interest rates shown are the range of contractual rates in effect at December 31, 2016 and 2015, respectively, including non-U.S. dollar fixed- and variable-rate issuances, which excludes the effects of the associated derivative instruments used in hedge accounting relationships, if applicable. The use of these derivative instruments modifies JPMorgan Chase Bank, N.A.'s exposure to the contractual interest rates disclosed in the table above. Including the effects of the hedge accounting derivatives, the range of modified rates in effect at December 31, 2016, for total long-term debt was 0.22% to 7.28%, versus the contractual range of 0.00% to 8.25% presented in the table above. The interest rate ranges shown exclude structured notes accounted for at fair value.

(b) During December 2016, JPMorgan Chase Bank, N.A. redeemed two outstanding series of redeemable preferred securities that were issued to a nonbank affiliate. At December 31, 2015 two consolidated subsidiaries of JPMorgan Chase Bank, N.A. had issued and outstanding two series of redeemable preferred securities issued to a nonbank affiliate as follows: $300 million, 8.20% maturing in 2030, and $300 million, 7.00% maturing in 2032.

(c) Included long-term debt of $60.4 billion and $65.8 billion secured by assets totaling $205.1 billion and $171.1 billion at December 31, 2016 and 2015, respectively. The amount of long-term debt secured by assets does not include amounts related to hybrid instruments.

(d) Included $14.9 billion and $14.7 billion of long-term debt accounted for at fair value at December 31, 2016 and 2015, respectively.

(e) Included $1.5 billion and $1.1 billion of outstanding zero-coupon notes at December 31, 2016 and 2015, respectively. The aggregate principal amount of these notes at their respective maturities is $2.9 billion and $1.8 billion, respectively. The aggregate principal amount reflects the contractual principal payment at maturity, which may exceed the contractual principal payment at JPMorgan Chase Bank, N.A.'s next call date, if applicable.

(f) Included on the Consolidated balance sheets in beneficial interests issued by consolidated VIEs. Excluded short-term commercial paper and other short-term beneficial interests of $5.4 billion and $11.0 billion at December 31, 2016 and 2015, respectively.

(g) At December 31, 2016, long-term debt in the aggregate of $41.7 billion was redeemable at the option of JPMorgan Chase Bank, N.A., in whole or in part, prior to maturity, based on the terms specified in the respective instruments.

(h) The aggregate carrying values of debt that matures in each of the five years subsequent to 2016 is $14.0 billion in 2017, $43.7 billion in 2018, $18.6 billion in 2019, $5.4 billion in 2020 and $6.6 billion in 2021.

The weighted-average contractual interest rates for total long-term debt excluding structured notes accounted for at fair value were 1.20% and 0.94% as of December 31, 2016 and 2015, respectively. In order to modify exposure to interest rate movements, JPMorgan Chase Bank, N.A. utilizes derivative instruments, primarily interest rate swaps, in conjunction with some of its debt issues. The use of these instruments modifies JPMorgan Chase Bank, N.A.'s interest expense on the associated debt. The modified weighted-average interest rates for total long-term debt, including the effects of related derivative instruments, were 1.06% and 0.70% as of December 31, 2016 and 2015, respectively.

JPMorgan Chase Bank, N.A's unsecured debt does not contain requirements that would call for an acceleration of payments, maturities or changes in the structure of the existing debt, provide any limitations on future borrowings or require additional collateral, based on unfavorable changes in JPMorgan Chase Bank, N.A's credit ratings, financial ratios or earnings.

Note 22 – Related party transactions

JPMorgan Chase Bank, N.A. regularly enters into transactions with JPMorgan Chase and its various subsidiaries.

Significant revenue- and expense-related transactions with these related parties are listed below.

Year ended December 31, (in millions)	**2016**	2015	2014
Interest income	**$ 615**	$ 150	$ 68
Interest expense	**656**	298	249
Servicing agreements and fee arrangements			
Noninterest revenue	**7,216**	6,321	6,926
Noninterest expense	**5,692**	3,875	3,846

Significant balances with these related parties are listed below.

December 31, (in millions)	**2016**	2015
Assets		
Deposits with banks[(a)]	**$ 32,500**	$ 6,686
Federal funds sold and securities purchased under resale agreements	**72,097**	67,842
Accrued interest and accounts receivable	**11,936**	9,908
All other assets	**12,305**	15,007
Liabilities		
Deposits[(b)]	**107,749**	80,489
Federal funds purchased and securities loaned or sold under repurchase agreements	**14,501**	24,297
Other borrowed funds[(c)]	**3**	15,023
Accounts payable and other liabilities	**12,115**	11,054
Long-term debt	**21,630**	13,662

(a) Primarily includes deposits placed with Chase Bank USA, N.A.
(b) Includes $20.0 billion at both December 31, 2016 and 2015, pledged to support extensions of credit and other transactions requiring collateral with affiliates as defined by Section 23A under the Federal Reserve Act, which defines the constraints that apply to U.S. banks in certain of their interactions with affiliates.
(c) Includes $15.0 billion at December 31, 2015 of borrowings under a short-term committed facility with JPMorgan Chase.

Through servicing agreements, JPMorgan Chase Bank, N.A. provides and receives operational support and services to and from JPMorgan Chase and its subsidiaries. These servicing agreements cover certain occupancy, marketing, communication and technology services, and other shared corporate service costs. JPMorgan Chase Bank, N.A. is allocated or allocates a share of the cost of the services over the relevant service period based on the agreed methodology. These fee allocations are reflected in the above table.

In addition to the information presented in the tables above, JPMorgan Chase Bank, N.A. executes derivative transactions with affiliates as part of its client driven market-making activities and to facilitate hedging certain risks for its affiliates. To accomplish this, JPMorgan Chase Bank, N.A. enters into substantially offsetting derivative transactions with third-parties and records both the third party and related-party gains and losses in noninterest revenue. At December 31, 2016, after giving effect to legally enforceable master netting agreements, net derivative receivables and payables to affiliates were $1.4 billion and $1.5 billion, respectively, (gross receivables and payables of approximately $44.0 billion and $44.2 billion, respectively). At December 31, 2015, after giving effect to legally enforceable master netting agreements, net derivative receivables and derivative payables to affiliates were $1.3 billion and $2.7 billion, respectively, (gross receivables and payables were approximately $49.1 billion and $50.4 billion, respectively).

Note 23 – 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), cash flow hedging activities, and net loss and prior service costs/(credit) related to JPMorgan Chase Bank, N.A.'s defined benefit pension and OPEB plans.

Effective January 1, 2016, JPMorgan Chase Bank, N.A. adopted new accounting guidance related to the recognition and measurement of financial liabilities where the fair value option has been elected. This guidance requires the portion of the total change in fair value caused by changes in JPMorgan Chase Bank, N.A.'s own credit risk ("DVA") to be presented separately in OCI; previously these amounts were recognized in net income. The guidance was required to be applied as of the beginning of the fiscal year of adoption by means of a cumulative effect adjustment to the Consolidated balance sheets, which resulted in a reclassification from retained earnings to AOCI.

Year ended December 31, (in millions)	Unrealized gains/(losses) on investment securities[a]	Translation adjustments, net of hedges	Cash flow hedges	Defined benefit pension and OPEB plans	DVA on fair value option elected liabilities	Accumulated other comprehensive income/(loss)
Balance at December 31, 2013	$ 2,675	$ 12	$ (75)	$ (433)	NA	$ 2,179
Net change	1,862	(35)	(16)	(34)	NA	1,777
Balance at December 31, 2014	$ 4,537	$ (23)	$ (91)	$ (467)	NA	$ 3,956
Net change	(2,104)	(17)	46	139	NA	(1,936)
Balance at December 31, 2015	$ 2,433	$ (40)	$ (45)	$ (328)	NA	$ 2,020
Cumulative effect of change in accounting principle	–	–	–	–	**11**	**11**
Net change	**(1,037)**	**4**	**(55)**	**(27)**	**(51)**	**(1,166)**
Balance at December 31, 2016	**$ 1,396**	**$ (36)**	**$ (100)**	**$ (355)**	**(40)**	**$ 865**

(a) Represents the after-tax difference between the fair value and amortized cost of securities accounted for as AFS, including net unamortized unrealized gains and losses related to AFS securities transferred to HTM.

The following table presents the pre-tax and after-tax changes in the components of OCI.

Year ended December 31, (in millions)	2016			2015			2014		
	Pretax	Tax effect	After-tax	Pretax	Tax effect	After-tax	Pretax	Tax effect	After-tax
Unrealized gains/(losses) on investment securities:									
Net unrealized gains/(losses) arising during the period	**$ (1,528)**	**$ 572**	**$ (956)**	$ (3,247)	$ 1,269	$ (1,978)	$ 3,008	$ (1,104)	$ 1,904
Reclassification adjustment for realized (gains)/losses included in net income[a]	**(130)**	**49**	**(81)**	(202)	76	(126)	(68)	26	(42)
Net change	**(1,658)**	**621**	**(1,037)**	(3,449)	1,345	(2,104)	2,940	(1,078)	1,862
Translation adjustments:									
Translation[b]	**118**	**(43)**	**75**	(1,542)	562	(980)	(1,402)	499	(903)
Hedges[b]	**(109)**	**38**	**(71)**	1,541	(578)	963	1,413	(545)	868
Net change	**9**	**(5)**	**4**	(1)	(16)	(17)	11	(46)	(35)
Cash flow hedges:									
Net unrealized gains/(losses) arising during the period	**(449)**	**168**	**(281)**	(97)	36	(61)	100	(40)	60
Reclassification adjustment for realized (gains)/losses included in net income[c][d]	**360**	**(134)**	**226**	174	(67)	107	(123)	47	(76)
Net change	**(89)**	**34**	**(55)**	77	(31)	46	(23)	7	(16)
Defined benefit pension and OPEB plans:									
Prior service credits arising during the period	**–**	**–**	**–**	–	–	–	–	–	–
Net gains/(losses) arising during the period	**(150)**	**54**	**(96)**	57	(21)	36	(129)	48	(81)
Reclassification adjustments included in net income[e]:									
Amortization of net loss	**25**	**(10)**	**15**	40	(15)	25	53	(21)	32
Prior service costs/(credits)	**(2)**	**1**	**(1)**	(2)	1	(1)	(2)	1	(1)
Settlement loss/(gain)	**4**	**(1)**	**3**	–	–	–	–	–	–
Foreign exchange and other	**80**	**(28)**	**52**	132	(53)	79	36	(20)	16
Net change	**(43)**	**16**	**(27)**	227	(88)	139	(42)	8	(34)
DVA on fair value option elected liabilities, net change:	**$ (83)**	**$ 32**	**$ (51)**	$ –	$ –	$ –	$ –	$ –	$ –
Total other comprehensive income/(loss)	**$ (1,864)**	**$ 698**	**$ (1,166)**	$ (3,146)	$ 1,210	$ (1,936)	$ 2,886	$ (1,109)	$ 1,777

(a) The pre-tax amount is reported in securities gains in the Consolidated statements of income.
(b) Reclassifications of pretax realized gains/(losses) on translation adjustments and related hedges are reported in other income/expense in the Consolidated statements of income. The amounts were not material for the periods presented.
(c) The pre-tax amounts are predominantly recorded in net interest income in the Consolidated statements of income.
(d) In 2015, JPMorgan Chase Bank, N.A. reclassified approximately $150 million of net losses from AOCI to other income because JPMorgan Chase Bank, N.A. determined that it is probable that the forecasted interest payment cash flows will not occur. For additional information, see Note 7.
(e) The pre-tax amount is reported in compensation expense in the Consolidated statements of income.

Note 24 – Income taxes

The results of operations of JPMorgan Chase Bank, N.A. are included in the consolidated federal, New York State, New York City and other state income tax returns filed by JPMorgan Chase. Pursuant to a tax sharing agreement, JPMorgan Chase allocates to JPMorgan Chase Bank, N.A. its share of the consolidated income tax expense or benefit based upon statutory rates applied to JPMorgan Chase Bank, N.A.'s earnings as if it were filing separate income tax returns. JPMorgan Chase Bank, N.A. uses the asset and liability method to provide for income taxes on all transactions recorded in the Consolidated Financial Statements. Valuation allowances are established when necessary to reduce deferred tax assets to an amount that in the opinion of management, is more likely than not to be realized. State and local income taxes are provided on JPMorgan Chase Bank, N.A.'s taxable income at the effective income tax rate applicable to the consolidated JPMorgan Chase entity.

The tax sharing arrangement between JPMorgan Chase and JPMorgan Chase Bank, N.A. allows for intercompany payments to or from JPMorgan Chase for outstanding current tax assets or liabilities.

Due to the inherent complexities arising from the nature of JPMorgan Chase Bank, N.A.'s businesses, and from conducting business and being taxed in a substantial number of jurisdictions, significant judgments and estimates are required to be made. Agreement of tax liabilities between JPMorgan Chase Bank, N.A. and the many tax jurisdictions in which JPMorgan Chase Bank, N.A. files tax returns may not be finalized for several years. Thus, JPMorgan Chase Bank, N.A.'s final tax-related assets and liabilities may ultimately be different from those currently reported.

Effective tax rate and expense

A reconciliation of the applicable statutory U.S. income tax rate to the effective tax rate for each of the years ended December 31, 2016, 2015 and 2014, is presented in the following table.

Effective tax rate

Year ended December 31,	**2016**	2015	2014
Statutory U.S. federal tax rate	**35.0%**	35.0%	35.0%
Increase/(decrease) in tax rate resulting from:			
U.S. state and local income taxes, net of U.S. federal income tax benefit	**2.0**	2.8	2.6
Tax-exempt income	**(3.0)**	(3.3)	(3.1)
Non-U.S. subsidiary earnings[(a)]	**(2.3)**	(5.2)	(3.1)
Business tax credits	**(2.2)**	(2.6)	(2.8)
Nondeductible legal expense	**0.4**	0.7	3.3
Other, net	**(1.0)**	(1.3)	(1.9)
Effective tax rate	**28.9%**	26.1%	30.0%

(a) Predominantly includes earnings of U.K. subsidiaries that are deemed to be reinvested indefinitely.

The components of income tax expense/(benefit) included in the Consolidated statements of income were as follows for each of the years ended December 31, 2016, 2015, and 2014.

Income tax expense/(benefit)

Year ended December 31, (in millions)	**2016**	2015	2014
Current income tax expense/(benefit)			
U.S. federal	**$ 3,683**	$ 3,109	$ 1,101
Non-U.S.	**1,565**	963	1,030
U.S. state and local	**656**	858	424
Total current income tax expense/(benefit)	**5,904**	4,930	2,555
Deferred income tax expense/(benefit)			
U.S. federal	**1,865**	1,013	3,307
Non-U.S.	**(73)**	(94)	82
U.S. state and local	**172**	131	387
Total deferred income tax expense/(benefit)	**1,964**	1,050	3,776
Total income tax expense	**$ 7,868**	$ 5,980	$ 6,331

Total income tax expense includes $34 million, $311 million and $399 million of tax benefits recorded in 2016, 2015, and 2014, respectively, as a result of tax audit resolutions.

Tax effect of items recorded in Stockholder's equity

The preceding table does not reflect the tax effect of certain items that are recorded each period directly in stockholder's equity. The tax effect of all items recorded directly to stockholder's equity resulted in an increase of $695 million in 2016, an increase of $1.2 billion in 2015, and a decrease of $1.1 billion in 2014.

Results from Non-U.S. earnings

The following table presents the U.S. and non-U.S. components of income before income tax expense for the years ended December 31, 2016, 2015 and 2014.

Year ended December 31, (in millions)	**2016**	2015	2014
U.S.	**$ 20,203**	$ 16,691	$ 14,959
Non-U.S.[(a)]	**7,037**	6,217	6,131
Income before income tax expense	**$ 27,240**	$ 22,908	$ 21,090

(a) For purposes of this table, non-U.S. income is defined as income generated from operations located outside the U.S.

U.S. federal income taxes have not been provided on the undistributed earnings of certain non-U.S. subsidiaries, to the extent that such earnings have been reinvested abroad for an indefinite period of time. Based on JPMorgan Chase Bank, N.A.'s ongoing review of the business requirements and capital needs of its non-U.S. subsidiaries, combined with the formation of specific strategies and steps taken to fulfill these requirements and needs, JPMorgan Chase Bank, N.A. has determined that the undistributed earnings of certain of its subsidiaries would be indefinitely reinvested to fund current and future growth of the related businesses. As management does not intend to use the earnings of these subsidiaries as a source of funding for its U.S. operations, such earnings will not be distributed to the U.S. in the foreseeable future. For 2016, pretax earnings of $3.8 billion were generated and will be indefinitely reinvested in these subsidiaries. At December 31, 2016, the cumulative amount of undistributed pretax earnings in these subsidiaries were $38.4 billion. If JPMorgan Chase Bank, N.A. were to record a deferred tax liability associated with these undistributed earnings, the amount would be approximately $8.8 billion at December 31, 2016.

These undistributed earnings are related to subsidiaries located predominantly in the U.K. where the 2016 tax rate was 28%.

Affordable housing tax credits

JPMorgan Chase Bank, N.A. recognized $1.6 billion, $1.5 billion and $1.4 billion of tax credits and other tax benefits associated with investments in affordable housing projects within income tax expense for the years 2016, 2015 and 2014, respectively. The amount of amortization of such investments reported in income tax expense under the current period presentation during these years was $1.1 billion, $1.0 billion and $955 million, respectively. The carrying value of these investments, which are reported in other assets on JPMorgan Chase Bank, N.A.'s Consolidated balance sheets, was $8.5 billion and $7.3 billion at December 31, 2016 and 2015, respectively. The amount of commitments related to these investments, which are reported in accounts payable and other liabilities on JPMorgan Chase Bank, N.A.'s Consolidated balance sheets, was $2.7 billion and $2.0 billion at December 31, 2016 and 2015, respectively.

Deferred taxes

Deferred income tax expense/(benefit) results from differences between assets and liabilities measured for financial reporting purposes versus income tax return purposes. Deferred tax assets are recognized if, in management's judgment, their realizability is determined to be more likely than not. If a deferred tax asset is determined to be unrealizable, a valuation allowance is established. The significant components of deferred tax assets and liabilities are reflected in the following table as of December 31, 2016 and 2015.

December 31, (in millions)	2016	2015
Deferred tax assets		
Allowance for loan losses	**$ 4,385**	$ 4,311
Employee benefits	**1,539**	831
Accrued expenses and other	**3,399**	3,722
Non-U.S. operations	**3,640**	3,766
Tax attribute carryforwards	**40**	58
Gross deferred tax assets	**13,003**	12,688
Valuation allowance	**(14)**	(14)
Deferred tax assets, net of valuation allowance	**$ 12,989**	$ 12,674
Deferred tax liabilities		
Depreciation and amortization	**$ 2,058**	$ 1,856
Mortgage servicing rights, net of hedges	**4,807**	4,968
Leasing transactions	**3,852**	2,842
Non-U.S. operations	**3,357**	3,190
Other, net	**2,035**	2,138
Gross deferred tax liabilities	**16,109**	14,994
Net deferred tax (liabilities)/assets	**$ (3,120)**	$ (2,320)

JPMorgan Chase Bank, N.A. has recorded deferred tax assets of $40 million at December 31, 2016, in connection with non-U.S. net operating loss ("NOL") carryforwards. At December 31, 2016, total non-U.S. NOL carryforwards were $142 million. If not utilized, the non-U.S. NOL carryforwards will expire in 2017.

Unrecognized tax benefits

At December 31, 2016, 2015 and 2014, JPMorgan Chase Bank, N.A.'s unrecognized tax benefits, excluding related interest expense and penalties, were $2.4 billion, $2.0 billion and $2.2 billion, respectively, of which $1.9 billion, 1.6 billion and 1.5 billion, respectively, if recognized, would reduce the annual effective tax rate. Included in the amount of unrecognized tax benefits are certain items that would not affect the effective tax rate if they were recognized in the Consolidated statements of income. These unrecognized items include the tax effect of certain temporary differences, the portion of gross state and local unrecognized tax benefits that would be offset by the benefit from associated U.S. federal income tax deductions, and the portion of gross non-U.S. unrecognized tax benefits that would have offsets in other jurisdictions. JPMorgan Chase is presently under audit by a number of taxing authorities, most notably by the Internal Revenue Service, as summarized in the Tax examination status table below.

As JPMorgan Chase Bank, N.A. is presently under audit by a number of taxing authorities, it is reasonably possible that over the next 12 months the resolution of these examinations may increase or decrease the gross balance of unrecognized tax benefits by as much as approximately $800 million. Upon settlement of an audit, the change in the unrecognized tax benefit would result from payment or income statement recognition.

The following table presents a reconciliation of the beginning and ending amount of unrecognized tax benefits for the years ended December 31, 2016, 2015 and 2014.

Year ended December 31, (in millions)	**2016**	2015	2014
Balance at January 1,	**$ 2,032**	$ 2,195	$ 3,001
Increases based on tax positions related to the current period	**103**	265	688
Increases based on tax positions related to prior periods	**452**	393	453
Decreases based on tax positions related to prior periods	**(130)**	(672)	(1,942)
Decreases related to cash settlements with taxing authorities	**(3)**	(149)	(5)
Decreases related to a lapse of applicable statute of limitations	**(38)**	–	–
Balance at December 31,	**$ 2,416**	$ 2,032	$ 2,195

After-tax interest expense/(benefit) and penalties related to income tax liabilities recognized in income tax expense were $94 million, $4 million and $47 million in 2016, 2015 and 2014, respectively.

At December 31, 2016 and 2015, in addition to the liability for unrecognized tax benefits, JPMorgan Chase Bank, N.A. had accrued $493 million and $354 million, respectively, for income tax-related interest and penalties.

Tax examination status

JPMorgan Chase Bank, N.A. is continually under examination by the Internal Revenue Service, by taxing authorities throughout the world, and by many state and local jurisdictions throughout the U.S. The following table summarizes the status of significant income tax examinations of JPMorgan Chase Bank, N.A. and its consolidated subsidiaries as of December 31, 2016.

December 31, 2016	Periods under examination	Status
JPMorgan Chase – U.S.	2003 – 2005	At Appellate level
JPMorgan Chase – U.S.	2006 – 2010	Field examination of amended returns; certain matters at Appellate level
JPMorgan Chase – U.S.	2011 – 2013	Field Examination
JPMorgan Chase – New York State	2008 – 2011	Field Examination
JPMorgan Chase – New York City	2008 – 2011	Field Examination
JPMorgan Chase – California	2011 – 2012	Field Examination
JPMorgan Chase – U.K.	2006 – 2014	Field examination of certain select entities

Note 25 – Restrictions on cash and intercompany funds transfers

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

The Federal Reserve requires depository institutions to maintain cash reserves with a Federal Reserve Bank. The average required amount of reserve balances deposited by JPMorgan Chase Bank, N.A. with a Federal Reserve Bank was approximately $19.3 billion and $14.4 billion in 2016 and 2015, respectively.

Restrictions imposed by U.S. federal law prohibit JPMorgan Chase & Co. and certain of its affiliates from borrowing from JPMorgan Chase Bank, N.A. and other banking subsidiaries unless the loans are secured in specified amounts. Such secured loans by JPMorgan Chase Bank, N.A. to any particular affiliate, together with certain other transactions with such affiliate, (collectively referred to as "covered transactions"), are generally limited to 10% of JPMorgan Chase Bank, N.A.'s total capital, as determined by the risk-based capital guidelines; the aggregate amount of covered transactions between JPMorgan Chase Bank, N.A. and all affiliates is limited to 20% of JPMorgan Chase Bank, N.A.'s total capital.

In addition to dividend restrictions set forth in statutes and regulations, the OCC, and under certain circumstances the FDIC, have authority under the Financial Institutions Supervisory Act to prohibit or to limit the payment of dividends by the banking organizations they supervise, including JPMorgan Chase Bank, N.A. if, in the banking regulator's opinion, payment of a dividend would constitute an unsafe or unsound practice in light of the financial condition of the banking organization.

At January 1, 2017, JPMorgan Chase Bank, N.A. could pay, in the aggregate, approximately $18 billion in dividends to JPMorgan Chase without the prior approval of its relevant banking regulators. The capacity to pay dividends in 2017 will be supplemented by JPMorgan Chase Bank, N.A.'s earnings during the year.

In compliance with rules and regulations established by U.S. and non-U.S. regulators, as of December 31, 2016 and 2015, cash in the amount of $6.1 billion and $6.2 billion, respectively, were segregated in special bank accounts for the benefit of securities and futures brokerage customers. Also, as of December 31, 2016 and 2015, JPMorgan Chase Bank, N.A. had receivables within other assets of $4.0 billion and $4.3 billion, respectively, consisting of cash deposited with clearing organizations for the benefit of customers. In addition, as of December 31, 2016 and 2015, JPMorgan Chase Bank, N.A. had other restricted cash of $3.0 billion and $2.6 billion, respectively, primarily representing cash reserves held at non-U.S. central banks and held for other general purposes.

Prior period amounts for segregated cash, receivables within other assets, and other restricted cash have been revised to conform with the current period presentation.

Note 26 – Regulatory capital

JPMorgan Chase Bank, N.A.'s banking regulator, the OCC, establishes capital requirements, including well-capitalized standards for national banks.

Basel III overview

Basel III capital rules for JPMorgan Chase Bank, N.A., presents two comprehensive methodologies for calculating risk-weighted assets ("RWA"): a general (standardized) approach ("Basel III Standardized"), and an advanced approach ("Basel III Advanced"). Certain of the requirements of Basel III are subject to phase-in periods that began on January 1, 2014 and continue through the end of 2018 ("transitional period").

Definition of capital

There are three categories of risk-based capital under the Basel III rules: CET1 capital, as well as Tier 1 capital and Tier 2 capital. CET1 capital predominantly includes common stockholder's equity (including capital for AOCI related to debt and equity securities classified as AFS as well as for defined-benefit pension and OPEB plans), less certain deductions for goodwill, MSRs and deferred tax assets that arise from NOL and tax credit carryforwards. Tier 1 capital predominantly consists of CET1 capital as well as perpetual preferred stock. Tier 2 capital includes long-term debt qualifying as Tier 2 and qualifying allowance for credit losses. Total capital is Tier 1 capital plus Tier 2 capital.

Risk-weighted assets

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

Supplementary leverage ratio ("SLR")

Basel III also includes a requirement for Advanced Approach banking organizations to calculate a SLR. The SLR is defined as Tier 1 capital under Basel III divided by JPMorgan Chase Bank, N.A.'s total leverage exposure. Total leverage exposure is calculated by taking JPMorgan Chase Bank, N.A.'s total average on-balance sheet assets, less amounts permitted to be deducted for Tier 1 capital, and adding certain off-balance sheet exposures, such as undrawn commitments and derivatives potential future exposure. JPMorgan Chase Bank, N.A. is required to have a minimum SLR of at least 6%, beginning January 1, 2018.

Risk-based capital regulatory minimums

The Basel III rules include minimum capital ratio requirements that are subject to phase-in periods through the end of 2018. JPMorgan Chase Bank, N.A. must maintain a minimum 6.5% CET1, 8% Tier 1 capital, 10% Total capital and 5% Tier 1 leverage requirement to meet the definition of "well-capitalized" under the Prompt Corrective Action ("PCA") requirements of the FDIC Improvement Act ("FDICIA").

JPMorgan Chase Bank, N.A. is required to hold additional amounts of capital to serve as a "capital conservation buffer". The capital conservation buffer is intended to be used to absorb potential losses in times of financial or economic stress. If not maintained, JPMorgan Chase Bank, N.A. could be limited in the amount of capital that may be distributed. The capital conservation buffer is subject to a phase-in period that began January 1, 2016 and continues through the end of 2018. When fully phased-in, JPMorgan Chase Bank, N.A. will be required to hold a 2.5% capital conservation buffer.

The countercyclical capital buffer takes into account the macro financial environment in which large, internationally active banks function. On September 8, 2016 the Federal Reserve published the framework that will apply to the setting of the countercyclical capital buffer. As of October 24, 2016 the Federal Reserve reaffirmed setting the U.S. countercyclical capital buffer at 0%, and stated that it will review the amount at least annually. The countercyclical capital buffer can be increased if the Federal Reserve, FDIC and OCC determine that credit growth in the economy has become excessive and can be set at up to an additional 2.5% of RWA subject to a 12-month implementation period.

Under the risk-based capital guidelines of the OCC, JPMorgan Chase Bank, N.A. is required to maintain minimum ratios of CET1, Tier 1 and Total capital to RWA, as well as a minimum leverage ratio (which is defined as Tier 1 capital divided by adjusted quarterly average assets). Failure to meet these minimum requirements could cause the OCC to take action.

The following table presents the minimum ratios to which JPMorgan Chase Bank, N.A. is subject as of December 31, 2016.

	Minimum capital ratios[(a)]	Well-capitalized ratios[(b)]
Capital ratios		
CET1	5.125%	6.5%
Tier 1	6.625	8.0
Total	8.625	10.0
Tier 1 leverage	4.0	5.0

Note: The ratios presented in the table above are as defined by the regulations issued by the OCC and FDIC and to which JPMorgan Chase Bank, N.A. and its subsidiaries are subject.

(a) Represents requirements for JPMorgan Chase Bank, N.A. and its subsidiaries. The CET1 minimum capital ratio includes 0.625% resulting from the phase in of the 2.5% capital conservation buffer that is applicable to banking subsidiaries.

(b) Represents requirements for bank subsidiaries pursuant to regulations issued under the FDIC Improvement Act.

As of December 31, 2016, and 2015, JPMorgan Chase Bank, N.A. was well-capitalized and met all capital requirements to which it was subject.

The following table presents the regulatory capital, assets and risk-based capital ratios for JPMorgan Chase Bank, N.A. under both Basel III Standardized Transitional and Basel III Advanced Transitional at December 31, 2016 and 2015.

	JPMorgan Chase Bank, N.A.			
	Basel III Standardized Transitional		Basel III Advanced Transitional	
(in millions, except ratios)	Dec 31, 2016	Dec 31, 2015	Dec 31, 2016	Dec 31, 2015
Regulatory capital				
CET1 capital	**$ 179,319**	$ 168,857	**$ 179,319**	$ 168,857
Tier 1 capital[(a)]	**179,341**	169,222	**179,341**	169,222
Total capital	**191,662**	183,262	**184,637**	176,423
Assets				
Risk-weighted	**1,293,203**	1,264,056	**1,262,613**	1,249,607
Adjusted average[(b)]	**2,088,851**	1,910,934	**2,088,851**	1,910,934
Capital ratios[(c)]				
CET1	**13.9%**	13.4%	**14.2%**	13.5%
Tier 1[(a)]	**13.9**	13.4	**14.2**	13.5
Total	**14.8**	14.5	**14.6**	14.1
Tier 1 leverage[(d)]	**8.6**	8.9	**8.6**	8.9

(a) Includes the deduction associated with the permissible holdings of covered funds (as defined by the Volcker Rule) acquired after December 31, 2013. The deduction was not material as of December 31, 2016.
(b) Adjusted average assets, for purposes of calculating the Tier 1 leverage ratio, includes total quarterly average assets adjusted for unrealized gains/(losses) on AFS securities, less deductions for goodwill and other intangible assets, defined benefit pension plan assets, and deferred tax assets related to NOL and tax credit carryforwards.
(c) For each of the risk-based capital ratios, the capital adequacy of JPMorgan Chase Bank, N.A. and its subsidiaries are evaluated against the Basel III approach, Standardized or Advanced, resulting in the lower ratio (the "Collins Floor"), as required by the Collins Amendment of the Dodd-Frank Act.
(d) The Tier 1 leverage ratio is not a risk-based measure of capital. This ratio is calculated by dividing Tier 1 capital by adjusted average assets.

Note: Rating agencies allow measures of capital to be adjusted upward for deferred tax liabilities, which have resulted from both non-taxable business combinations and from tax-deductible goodwill. JPMorgan Chase Bank, N.A. had deferred tax liabilities resulting from non-taxable business combinations of $31 million and $46 million at December 31, 2016, and 2015, respectively; and deferred tax liabilities resulting from tax-deductible goodwill of $1.8 billion and $1.7 billion at December 31, 2016, and 2015, respectively.

Note 27 – Off–balance sheet lending-related financial instruments, guarantees, and other commitments

JPMorgan Chase Bank, N.A. provides lending-related financial instruments (e.g., commitments and guarantees) to meet the financing needs of its customers. The contractual amount of these financial instruments represents the maximum possible credit risk to JPMorgan Chase Bank, N.A. should the counterparty draw upon the commitment or JPMorgan Chase Bank, N.A. be required to fulfill its obligation under the guarantee, and should the counterparty 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 JPMorgan Chase Bank, N.A.'s view, representative of its actual future credit exposure or funding requirements.

To provide for probable credit losses inherent in wholesale and certain consumer lending-commitments, an allowance for credit losses on lending-related commitments is maintained. See Note 16 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 December 31, 2016 and 2015. The amounts in the table below for credit card and home equity lending-related commitments represent the total available credit for these products. JPMorgan Chase Bank, N.A. has not experienced, and does not anticipate, that all available lines of credit for these products will be utilized at the same time. JPMorgan Chase Bank, N.A. 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, JPMorgan Chase Bank, N.A. typically closes credit card lines when the borrower is 60 days or more past due. JPMorgan Chase Bank, N.A. 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

	Contractual amount						Carrying value[g]	
	2016					2015	2016	2015
By remaining maturity at December 31, (in millions)	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	$ 4,246	$ 3,578	$ 1,035	$ 12,854	$ 21,713	$ 22,756	$ 12	$ –
Residential mortgage[a]	11,745	–	–	–	11,745	12,992	–	–
Auto	7,815	461	173	27	8,476	10,237	2	2
Business banking	11,692	673	122	453	12,940	12,513	12	12
Student and other	107	1	–	29	137	142	–	–
Total consumer, excluding credit card	35,605	4,713	1,330	13,363	55,011	58,640	26	14
Credit card	11,198	–	–	–	11,198	10,386	–	–
Total consumer[b]	46,803	4,713	1,330	13,363	66,209	69,026	26	14
Wholesale:								
Other unfunded commitments to extend credit[c][d]	65,243	116,531	135,637	6,810	324,221	317,494	905	649
Standby letters of credit and other financial guarantees[c][e]	15,961	12,652	6,578	979	36,170	39,347	586	548
Other letters of credit[c]	3,353	87	129	1	3,570	3,941	2	2
Total wholesale	84,557	129,270	142,344	7,790	363,961	360,782	1,493	1,199
Total lending-related	$ 131,360	$ 133,983	$ 143,674	$ 21,153	$ 430,170	$ 429,808	$ 1,519	$ 1,213
Other guarantees and commitments								
Securities lending indemnification agreements and guarantees[e]	$ 149,533	$ –	$ –	$ –	$ 149,533	$ 187,850	$ –	$ –
Derivatives qualifying as guarantees	704	119	10,930	39,525	51,278	53,783	48	222
Unsettled reverse repurchase and securities borrowing agreements	46,801	–	–	–	46,801	38,026	–	–
Unsettled repurchase and securities lending agreements	23,429	–	–	–	23,429	20,008	–	–
Loan sale and securitization-related indemnifications:								
Mortgage repurchase liability	NA	NA	NA	NA	NA	NA	129	144
Loans sold with recourse	NA	NA	NA	NA	2,274	3,751	31	45
Other guarantees and commitments[f]	5,740	5,961	13,187	1,074	25,962	14,913	(131)	(113)

(a) Includes certain commitments to purchase loans from correspondents.
(b) Predominantly all consumer lending-related commitments are in the U.S.
(c) At December 31, 2016 and 2015, reflected the contractual amount net of risk participations totaling $328 million and $385 million, respectively, for other unfunded commitments to extend credit; $11.1 billion and $11.2 billion, respectively, for standby letters of credit and other financial guarantees; and $265 million and $341 million, respectively, for other letters of credit. In regulatory filings with the Federal Reserve these commitments are shown gross of risk participations.
(d) At both December 31, 2016 and 2015, included commitments to affiliates of $16 million.
(e) At December 31, 2016 and 2015, collateral held by JPMorgan Chase Bank, N.A. in support of securities lending indemnification agreements was $155.9 billion and $195.2 billion, respectively. Securities lending collateral consist of primarily cash and securities issued by governments that are members of the Organisation for Economic Co-operation and Development ("OECD") and U.S. government agencies.
(f) At December 31, 2016 and 2015, included guarantees of the obligations of affiliates of $21.3 billion and $10.3 billion, which predominantly relate to obligations arising under the affiliates' borrowing facilities at the FHLBs; and unfunded equity investment commitments of $15 million and $2 million, respectively. In addition, at both December 31, 2016 and 2015, included letters of credit hedged by derivative transactions and managed on a market risk basis of $4.6 billion.
(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. JPMorgan Chase Bank, N.A. also issues commitments under multipurpose facilities which could be drawn upon in several forms, including the issuance of a standby letter of credit.

JPMorgan Chase Bank, N.A. acts as a settlement and custody bank in the U.S. tri-party repurchase transaction market. In its role as settlement and custody bank, JPMorgan Chase Bank, N.A. is exposed to the intra-day credit risk of its cash borrower clients, usually broker-dealers. This exposure arises under secured clearance advance facilities that JPMorgan Chase Bank, N.A. extends to its clients (i.e. cash borrowers); these facilities contractually limit JPMorgan Chase Bank, N.A.'s intra-day credit risk to the facility amount and must be repaid by the end of the day. As of December 31, 2016 and 2015, the secured clearance advance facility maximum outstanding commitment amount was $4.4 billion and $4.9 billion, respectively.

Guarantees

U.S. GAAP requires that a guarantor recognize, at the inception of a guarantee, a liability in an amount equal to the fair value of the obligation undertaken in issuing the guarantee. U.S. GAAP defines a guarantee as a contract that contingently requires the guarantor to pay a guaranteed party based upon: (a) changes in an underlying asset, liability or equity security of the guaranteed party; or (b) a third party's failure to perform under a specified agreement. JPMorgan Chase Bank, N.A. considers the following off–balance sheet lending-related arrangements to be guarantees under U.S. GAAP: standby letters of credit and other financial guarantees, securities lending indemnifications, certain indemnification agreements included within third-party contractual arrangements and certain derivative contracts.

As required by U.S. GAAP, JPMorgan Chase Bank, N.A. initially records guarantees at the inception date fair value of the obligation assumed (e.g., the amount of consideration received or the net present value of the premium receivable). For certain types of guarantees, JPMorgan Chase Bank, N.A. records this fair value amount in other liabilities with an offsetting entry recorded in cash (for premiums received), or other assets (for premiums receivable). Any premium receivable recorded in other assets is reduced as cash is received under the contract, and the fair value of the liability recorded at inception is amortized into income as lending and deposit-related fees over the life of the guarantee contract. For indemnifications provided in sales agreements, a portion of the sale proceeds is allocated to the guarantee, which adjusts the gain or loss that would otherwise result from the transaction. For these indemnifications, the initial liability is amortized to income as JPMorgan Chase Bank, N.A.'s risk is reduced (i.e., over time or when the indemnification expires). Any contingent liability that exists as a result of issuing the guarantee or indemnification is recognized when it becomes probable and reasonably estimable. The contingent portion of the liability is not recognized if the estimated amount is less than the carrying amount of the liability recognized at inception (adjusted for any amortization). The recorded amounts of the liabilities related to guarantees and indemnifications at December 31, 2016 and 2015, excluding the allowance for credit losses on lending-related commitments, are discussed below.

Standby letters of credit and other financial guarantees

Standby letters of credit and other financial guarantees are conditional lending commitments issued by JPMorgan Chase Bank, N.A. to guarantee the performance of a customer to a third party under certain arrangements, such as commercial paper facilities, bond financings, acquisition financings, trade and similar transactions. The carrying values of standby and other letters of credit were $588 million and $550 million at December 31, 2016 and 2015, respectively, which were classified in accounts payable and other liabilities on the Consolidated balance sheets; these carrying values included $147 million and $123 million, respectively, for the allowance for lending-related commitments, and $441 million and $427 million, respectively, for the guarantee liability and corresponding asset.

The following table summarizes the types of facilities under which standby letters of credit and other letters of credit arrangements are outstanding by the ratings profiles of JPMorgan Chase Bank, N.A.'s customers, as of December 31, 2016 and 2015.

Standby letters of credit, other financial guarantees and other letters of credit

December 31, (in millions)	**2016**		2015	
	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]	**$ 28,245**	**$ 2,781**	$ 31,751	$ 3,290
Noninvestment-grade[a]	**7,702**	**789**	7,596	651
Total contractual amount	**$ 35,947**	**$ 3,570**	$ 39,347	$ 3,941
Allowance for lending-related commitments	**$ 145**	**$ 2**	$ 121	$ 2
Guarantee liability	441	–	427	–
Total carrying value	**$ 586**	**$ 2**	$ 548	$ 2
Commitments with collateral	**$ 19,346**	**$ 940**	$ 18,825	$ 996

(a) The ratings scale is based on JPMorgan Chase Bank, N.A.'s internal ratings, which generally correspond to ratings as defined by S&P and Moody's.

Securities lending indemnifications

Through JPMorgan Chase Bank, N.A.'s securities lending program, customers' securities, via custodial and non-custodial arrangements, may be lent to third parties. As part of this program, JPMorgan Chase Bank, N.A. provides an indemnification in the lending agreements which protects the lender against the failure of the borrower to return the lent securities. To minimize its liability under these indemnification agreements, JPMorgan Chase Bank, N.A. obtains cash or other highly liquid collateral with a market value exceeding 100% of the value of the securities on loan from the borrower. Collateral is marked to market daily to help assure that collateralization is adequate. Additional collateral is called from the borrower if a shortfall exists, or collateral may be released to the borrower in the event of overcollateralization. If a borrower defaults, JPMorgan Chase Bank, N.A. would use the collateral held to purchase replacement securities in the market or to credit the lending customer with the cash equivalent thereof.

Derivatives qualifying as guarantees

JPMorgan Chase Bank, N.A. transacts certain derivative contracts that have the characteristics of a guarantee under U.S. GAAP. These contracts include written put options that require JPMorgan Chase Bank, N.A. to purchase assets upon exercise by the option holder at a specified price by a specified date in the future. JPMorgan Chase Bank, N.A.may enter into written put option contracts in order to meet client needs, or for other trading purposes. The terms of written put options are typically five years or less. Derivatives deemed to be guarantees also include contracts such as stable value derivatives that require JPMorgan Chase Bank, N.A. to make a payment of the difference between the market value and the book value of a counterparty's reference portfolio of assets in the event that market value is less than book value and certain other conditions have been met. Stable value derivatives, commonly referred to as "stable value wraps," are transacted in order to allow investors to realize investment returns with less volatility than an unprotected portfolio and are typically longer-term or may have no stated maturity, but allow JPMorgan Chase Bank, N.A. to elect to terminate the contract under certain conditions.

Derivatives deemed to be guarantees are recorded on the Consolidated balance sheets at fair value in trading assets and trading liabilities. The total notional value of the derivatives that JPMorgan Chase Bank, N.A. deems to be guarantees was $51.3 billion and $53.8 billion at December 31, 2016 and 2015, respectively. The notional amount generally represents JPMorgan Chase Bank, N.A.'s maximum exposure to derivatives qualifying as guarantees. However, exposure to certain stable value contracts is contractually limited to a substantially lower percentage of the notional amount; the notional amount on these stable value contracts was $28.7 billion and $28.4 billion at December 31, 2016 and 2015,respectively, and the maximum exposure to loss was $3.0 billion at both December 31, 2016 and 2015. The fair values of the contracts reflect the probability of whether JPMorgan Chase Bank, N.A. will be required to perform under the contract. The fair value related to derivatives that JPMorgan Chase Bank, N.A. deems to be guarantees were derivative payables of $64 million and $236 million and derivative receivables of $16 million and $14 million at December 31, 2016 and 2015, respectively. JPMorgan Chase Bank, N.A. reduces exposures to these contracts by entering into offsetting transactions, or by entering into contracts that hedge the market risk related to the derivative guarantees.

In addition to derivative contracts that meet the characteristics of a guarantee, JPMorgan Chase Bank, N.A. is both a purchaser and seller of credit protection in the credit derivatives market. For a further discussion of credit derivatives, see Note 7.

Unsettled reverse repurchase and securities borrowing agreements, and unsettled repurchase and securities lending agreements
In the normal course of business, JPMorgan Chase Bank, N.A. enters into reverse repurchase agreements and securities borrowing agreements, which are secured financing agreements. Such agreements settle at a future date. At settlement, these commitments result in JPMorgan Chase Bank, N.A. advancing cash to and receiving securities collateral from the counterparty. JPMorgan Chase Bank, N.A. also enters into repurchase agreements and securities lending agreements. At settlement, these commitments result in JPMorgan Chase Bank N.A. receiving cash from and providing securities collateral to the counterparty. These agreements generally do not meet the definition of a derivative, and therefore, are not recorded on the Consolidated balance sheets until settlement date. These agreements predominantly consist of agreements with regular-way settlement periods. For a further discussion of securities purchased under resale agreements and securities borrowed, and securities sold under repurchase agreements and securities loaned, see Note 14.

Loan sales- and securitization-related indemnifications

Mortgage repurchase liability
In connection with JPMorgan Chase Bank, N.A.'s mortgage loan sale and securitization activities with GSEs, as described in Note 17, JPMorgan Chase Bank, N.A. has made representations and warranties that the loans sold meet certain requirements that may require JPMorgan Chase Bank, N.A. to repurchase mortgage loans and/or indemnify the loan purchaser. Further, although JPMorgan Chase Bank, N.A.'s securitizations are predominantly nonrecourse, JPMorgan Chase Bank, N.A. does provide recourse servicing in certain limited cases where it agrees to share credit risk with the owner of the mortgage loans. To the extent that repurchase demands that are received relate to loans that JPMorgan Chase Bank, N.A. purchased from third parties that remain viable, JPMorgan Chase Bank, N.A. typically will have the right to seek a recovery of related repurchase losses from the third party. Generally, the maximum amount of future payments JPMorgan Chase Bank, N.A. would be required to make for breaches of these representations and warranties would be equal to the unpaid principal balance of such loans that are deemed to have defects that were sold to purchasers (including securitization-related SPEs) plus, in certain circumstances, accrued interest on such loans and certain expense.

Private label securitizations
The liability related to repurchase demands associated with private label securitizations is separately evaluated by JPMorgan Chase Bank, N.A. in establishing its litigation reserves.

For additional information regarding litigation, see Note 29.

Loans sold with recourse
JPMorgan Chase Bank, N.A. provides servicing for mortgages and certain commercial lending products on both a recourse and nonrecourse basis. In nonrecourse servicing, the principal credit risk to JPMorgan Chase Bank, N.A. is the cost of temporary servicing advances of funds (i.e., normal servicing advances). In recourse servicing, the servicer agrees to share credit risk with the owner of the mortgage loans, such as Fannie Mae or Freddie Mac or a private investor, insurer or guarantor. Losses on recourse servicing predominantly occur when foreclosure sales proceeds of the property underlying a defaulted loan are less than the sum of the outstanding principal balance, plus accrued interest on the loan and the cost of holding and disposing of the underlying property. JPMorgan Chase Bank, N.A.'s securitizations are predominantly nonrecourse, thereby effectively transferring the risk of future credit losses to the purchaser of the mortgage-backed securities issued by the trust. At December 31, 2016 and 2015, the unpaid principal balance of loans sold with recourse totaled $2.3 billion and $3.8 billion, respectively. The carrying value of the related liability that JPMorgan Chase Bank, N.A. has recorded, which is representative of JPMorgan Chase Bank, N.A.'s view of the likelihood it will have to perform under its recourse obligations, was $31 million and $45 million at December 31, 2016 and 2015, respectively.

Other off-balance sheet arrangements

Indemnification agreements – general
In connection with issuing securities to investors, JPMorgan Chase Bank, N.A. may enter into contractual arrangements with third parties that require JPMorgan Chase Bank, N.A. to make a payment to them in the event of a change in tax law or an adverse interpretation of tax law. In certain cases, the contract also may include a termination clause, which would allow JPMorgan Chase Bank, N.A. to settle the contract at its fair value in lieu of making a payment under the indemnification clause. JPMorgan Chase Bank, N.A. may also enter into indemnification clauses in connection with the licensing of software to clients ("software licensees") or when it sells a business or assets to a third party ("third-party purchasers"), pursuant to which it indemnifies software licensees for claims of liability or damages that may occur subsequent to the licensing of the software, or third-party purchasers for losses they may incur due to actions taken by JPMorgan Chase Bank, N.A. prior to the sale of the business or assets. It is difficult to estimate JPMorgan Chase Bank, N.A.'s maximum exposure under these indemnification arrangements, since this would require an assessment of future changes in tax law and future claims that may be made against JPMorgan Chase Bank, N.A. that have not yet occurred. However, based on historical experience, management expects the risk of loss to be remote.

Card charge-backs
Commerce Solutions, Card's merchant services business, is a global leader in payment processing and merchant acquiring.

Under the rules of Visa USA, Inc., and MasterCard International, JPMorgan Chase Bank, N.A., is primarily liable for the amount of each processed card sales transaction that is the subject of a dispute between a cardmember and a merchant. If a dispute is resolved in the cardmember's favor, Commerce Solutions will (through the cardmember's issuing bank) credit or refund the amount to the cardmember and will charge back the transaction to the merchant. If Commerce Solutions is unable to collect the amount from the merchant, Commerce Solutions will bear the loss for the amount credited or refunded to the cardmember. Commerce Solutions mitigates this risk by withholding future settlements, retaining cash reserve accounts or by obtaining other security. However, in the unlikely event that: (1) a merchant ceases operations and is unable to deliver products, services or a refund; (2) Commerce Solutions does not have sufficient collateral from the merchant to provide customer refunds; and (3) Commerce Solutions does not have sufficient financial resources to provide customer refunds, JPMorgan Chase Bank, N.A., would recognize the loss.

Commerce Solutions incurred aggregate losses of $85 million, $12 million, and $10 million on $1.1 billion, $949.3 billion, and $847.9 billion of aggregate volume processed for the years ended December 31, 2016, 2015 and 2014, respectively. Incurred losses from merchant charge-backs are charged to other expense, with the offset recorded in a valuation allowance against accrued interest and accounts receivable on the Consolidated balance sheets. The carrying value of the valuation allowance was $45 million and $20 million at December 31, 2016 and 2015, respectively, which JPMorgan Chase Bank, N.A.believes, based on historical experience and the collateral held by Commerce Solutions of $125 million and $136 million at December 31, 2016 and 2015, respectively, is representative of the payment or performance risk to JPMorgan Chase Bank, N.A. related to charge-backs.

Clearing Services – Client Credit Risk
JPMorgan Chase Bank, N.A. provides clearing services for clients by entering into securities purchases and sales and derivative transactions with CCPs, including ETDs such as futures and options, as well as OTC-cleared derivative contracts. As a clearing member, JPMorgan Chase Bank, N.A. stands behind the performance of its clients, collects cash and securities collateral (margin) as well as any settlement amounts due from or to clients, and remits them to the relevant CCP or client in whole or part. There are two types of margin: variation margin is posted on a daily basis based on the value of clients' derivative contracts and initial margin is posted at inception of a derivative contract, generally on the basis of the potential changes in the variation margin requirement for the contract.

As clearing member, JPMorgan Chase Bank, N.A. is exposed to the risk of nonperformance by its clients, but is not liable to clients for the performance of the CCPs. Where possible, JPMorgan Chase Bank, N.A. seeks to mitigate its risk to the client through the collection of appropriate amounts of margin at inception and throughout the life of the transactions. JPMorgan Chase Bank, N.A. can also cease providing clearing services if clients do not adhere to their obligations under the clearing agreement. In the event of nonperformance by a client, JPMorgan Chase Bank, N.A. would close out the client's positions and access available margin. The CCP would utilize any margin it holds to make itself whole, with any remaining shortfalls required to be paid by JPMorgan Chase Bank, N.A. as a clearing member.

JPMorgan Chase Bank, N.A. reflects its exposure to nonperformance risk of the client through the recognition of margin payables or receivables to clients and CCPs; the clients' underlying securities or derivative contracts are not reflected in JPMorgan Chase Bank, N.A.'s Consolidated Financial Statements.

It is difficult to estimate JPMorgan Chase Bank, N.A.'s maximum possible exposure through its role as a clearing member, as this would require an assessment of transactions that clients may execute in the future. However, based upon historical experience, and the credit risk mitigants available to JPMorgan Chase Bank, N.A., management believes it is unlikely that JPMorgan Chase Bank, N.A. will have to make any material payments under these arrangements and the risk of loss is expected to be remote.

For information on the derivatives that JPMorgan Chase Bank, N.A. executes for its own account and records in its Consolidated Financial Statements, see Note 7.

Exchange & Clearing House Memberships
JPMorgan Chase Bank, N.A. is a member of several securities and derivative exchanges and clearing houses, both in the U.S. and other countries, and it provides clearing services. Membership in some of these organizations requires JPMorgan Chase Bank, N.A. to pay a pro rata share of the losses incurred by the organization as a result of the default of another member. Such obligations vary with different organizations. These obligations may be limited to members who dealt with the defaulting member or to the amount (or a multiple of the amount) of JPMorgan Chase Bank, N.A.'s contribution to the guarantee fund maintained by a clearing house or exchange as part of the resources available to cover any losses in the event of a member default. Alternatively, these obligations may include a pro rata share of the residual losses after applying the guarantee fund. Additionally, certain clearing houses require JPMorgan Chase Bank, N.A. as a member to pay a pro rata share of losses that may result from the clearing

house's investment of guarantee fund contributions and initial margin, unrelated to and independent of the default of another member. Generally a payment would only be required should such losses exceed the resources of the clearing house or exchange that are contractually required to absorb the losses in the first instance. It is difficult to estimate JPMorgan Chase Bank, N.A.'s maximum possible exposure under these membership agreements, since this would require an assessment of future claims that may be made against JPMorgan Chase Bank, N.A. that have not yet occurred. However, based on historical experience, management expects the risk of loss to be remote.

Guarantees of subsidiaries and affiliates
In the normal course of business, JPMorgan Chase Bank, N.A. may provide counterparties with guarantees of certain of the trading and other obligations of its subsidiaries and affiliates on a contract-by-contract basis, as negotiated with JPMorgan Chase Bank, N.A.'s counterparties. The obligations of the subsidiaries are included on JPMorgan Chase Bank, N.A.'s Consolidated balance sheets or are reflected as off-balance sheet commitments; therefore, JPMorgan Chase Bank, N.A. has not recognized a separate liability for these guarantees. As at December 31, 2016 and 2015, JPMorgan Chase Bank, N.A. had provided guarantees of $21.3 billion and $10.3 billion, respectively, of the obligations of affiliates. JPMorgan Chase Bank, N.A. believes that the occurrence of any event that would trigger payments by JPMorgan Chase Bank, N.A. under these guarantees is remote.

Note 28 – Commitments, pledged assets and collateral

Lease commitments

At December 31, 2016, JPMorgan Chase Bank, N.A. and its subsidiaries were obligated under a number of noncancelable operating leases for premises and equipment used primarily for banking purposes. Certain leases contain renewal options or escalation clauses providing for increased rental payments based on maintenance, utility and tax increases, or they require JPMorgan Chase Bank, N.A. to perform restoration work on leased premises. No lease agreement imposes restrictions on JPMorgan Chase Bank, N.A.'s ability to pay dividends, engage in debt or equity financing transactions or enter into further lease agreements.

The following table presents required future minimum rental payments under operating leases with noncancelable lease terms that expire after December 31, 2016.

Year ended December 31, (in millions)	
2017	$ 1,320
2018	1,287
2019	1,193
2020	1,077
2021	844
After 2021	3,513
Total minimum payments required	9,234
Less: Sublease rentals under noncancelable subleases	(992)
Net minimum payment required	$ 8,242

Total rental expense was as follows.

Year ended December 31, (in millions)	**2016**	2015	2014
Gross rental expense	**$ 1,666**	$ 1,672	$ 1,720
Sublease rental income	**(198)**	(198)	(187)
Net rental expense	**$ 1,468**	$ 1,474	$ 1,533

Pledged assets

JPMorgan Chase Bank, N.A. may pledge financial assets that it owns to maintain potential borrowing capacity with central banks and for other purposes, including to secure borrowings and public deposits, and to collateralize repurchase and other securities financing agreements, and to cover customer short sales. Certain of these pledged assets may be sold or repledged or otherwise used by the secured parties and are identified as financial instruments owned (pledged to various parties) on the Consolidated balance sheets. At December 31, 2016 and 2015, JPMorgan Chase Bank, N.A. had pledged assets of $388.7 billion and $338.6 billion, respectively, at Federal Reserve banks and FHLBs. In addition, as of December 31, 2016 and 2015, JPMorgan Chase Bank, N.A. had pledged $37.8 billion and $39.4 billion, respectively, of financial assets that may not be sold or repledged or otherwise used by the secured parties. Total assets pledged do not include assets of consolidated VIEs; these assets are used to settle the liabilities of those entities. See Note 17 for additional information on assets and liabilities of consolidated VIEs. For additional information on JPMorgan Chase Bank, N.A.'s securities financing activities and long-term debt, see Note 14, and Note 21, respectively. The significant components of JPMorgan Chase Bank, N.A.'s pledged assets were as follows.

December 31, (in billions)	**2016**	2015
Securities	**$ 104.1**	$ 125.6
Loans	**321.4**	251.4
Trading assets and other	**72.8**	74.1
Total assets pledged	**$ 498.3**	$ 451.1

Collateral

At December 31, 2016 and 2015, JPMorgan Chase Bank, N.A. had accepted financial assets as collateral that it could sell or repledge, deliver or otherwise use with a fair value of approximately $540.8 billion and $417.3 billion, respectively. This collateral was generally obtained under resale agreements, securities borrowing agreements, customer margin loans and derivative agreements. Of the collateral received, approximately $396.6 billion and $303.6 billion, respectively, were sold, repledged, delivered or otherwise used. Collateral was generally used under repurchase agreements, securities lending agreements or to cover customer short sales and to collateralize deposits and derivative agreements.

Note 29 – Litigation

Contingencies

As of December 31, 2016, JPMorgan Chase and its subsidiaries, including but not limited to JPMorgan Chase Bank, N.A., are defendants or putative defendants 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 JPMorgan Chase's lines of business and 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.

JPMorgan Chase believes the estimate of the aggregate range of reasonably possible losses, in excess of reserves established, for JPMorgan Chase's legal proceedings is from $0 to approximately $3.0 billion at December 31, 2016. This estimated aggregate range of reasonably possible losses was based upon currently available information for those proceedings in which JPMorgan Chase believes that an estimate of reasonably possible loss can be made. For certain matters, JPMorgan Chase does not believe that such an estimate can be made, as of that date. JPMorgan Chase'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 JPMorgan Chase and JPMorgan Chase Bank, N.A.) whose share of liability 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 JPMorgan Chase 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 JPMorgan Chase did not take into account in its estimate because JPMorgan Chase had deemed the likelihood of that outcome to be remote. Accordingly, JPMorgan Chase'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 material legal proceedings in which JPMorgan Chase and its subsidiaries (which in certain instances include JPMorgan Chase Bank, N.A.) are involved or have been named as parties.

CIO Litigation. JPMorgan Chase has been sued in a consolidated shareholder class action, and in a consolidated putative class action brought under the Employee Retirement Income Security Act ("ERISA"), relating to 2012 losses in the synthetic credit portfolio formerly managed by JPMorgan Chase's Chief Investment Office ("CIO"). A settlement of the shareholder class action, under which JPMorgan Chase paid $150 million, has received full and final approval from the Court. The putative ERISA class action has been dismissed. That dismissal was affirmed by the appellate court, and a request by the plaintiffs for rehearing by the full appellate court was denied.

Foreign Exchange Investigations and Litigation. JPMorgan Chase 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 JPMorgan Chase is cooperating with those matters. In May 2015, JPMorgan Chase pleaded guilty to a single violation of federal antitrust law, and in January 2017, JPMorgan Chase was sentenced, with judgment entered shortly thereafter. The Department of Labor granted JPMorgan Chase a temporary one-year waiver, which was effective upon entry of judgment, to allow JPMorgan Chase and its affiliates to continue to qualify for the Qualified Professional Asset Manager exemption under ERISA. JPMorgan Chase's application for a lengthier exemption is pending. Separately, in February 2017 the South Africa Competition Commission announced that it had referred its FX investigation of JPMorgan Chase and other banks to the South Africa Competition Tribunal to commence civil proceedings.

JPMorgan Chase is also one of a number of foreign exchange dealers defending a class action filed in the United States District Court for the Southern District of New York by U.S.-based plaintiffs, principally alleging violations of federal antitrust laws based on an alleged conspiracy to manipulate foreign exchange rates (the "U.S. class action"). In January 2015, JPMorgan Chase entered into a settlement agreement in the U.S. class action. Following this settlement, a number of additional putative class actions

were filed seeking damages for persons who transacted FX futures and options on futures (the "exchanged-based actions"), consumers who purchased foreign currencies at allegedly inflated rates (the "consumer action"), participants or beneficiaries of qualified ERISA plans (the "ERISA actions"), and purported indirect purchasers of FX instruments (the "indirect purchaser action"). Since then, JPMorgan Chase has entered into a revised settlement agreement to resolve the consolidated U.S. class action, including the exchange-based actions, and that agreement has been preliminarily approved by the Court. The District Court has dismissed one of the ERISA actions, and the plaintiffs have filed an appeal. The consumer action, a second ERISA action and the indirect purchaser action remain pending in the District Court.

In September 2015, two class actions were filed in Canada against JPMorgan Chase as well as a number of other FX dealers, principally for alleged violations of the Canadian Competition Act based on an alleged conspiracy to fix the prices of currency purchased in the FX market. The first action was filed in the province of Ontario, and seeks to represent all persons in Canada who transacted any FX instrument. The second action was filed in the province of Quebec, and seeks authorization to represent only those persons in Quebec who engaged in FX transactions. In late 2016, JPMorgan Chase settled the Canadian class actions; those settlements are subject to Court approval.

General Motors Litigation. JPMorgan Chase Bank, N.A. participated in, and was the Administrative Agent on behalf of a syndicate of lenders on, a $1.5 billion syndicated Term Loan facility ("Term Loan") for General Motors Corporation ("GM"). In July 2009, in connection with the GM bankruptcy proceedings, the Official Committee of Unsecured Creditors of Motors Liquidation Company ("Creditors Committee") filed a lawsuit against JPMorgan Chase Bank, N.A., in its individual capacity and as Administrative Agent for other lenders on the Term Loan, seeking to hold the underlying lien invalid based on the filing of a UCC-3 termination statement relating to the Term Loan. In January 2015, following several court proceedings, the United States Court of Appeals for the Second Circuit reversed the Bankruptcy Court's dismissal of the Creditors Committee's claim and remanded the case to the Bankruptcy Court with instructions to enter partial summary judgment for the Creditors Committee as to the termination statement. The proceedings in the Bankruptcy Court continue with respect to, among other things, additional defenses asserted by JPMorgan Chase Bank, N.A. and the value of additional collateral on the Term Loan that was unaffected by the filing of the termination statement at issue. In addition, certain Term Loan lenders filed cross-claims against JPMorgan Chase Bank, N.A. in the Bankruptcy Court seeking indemnification and asserting various claims.

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, enacted respective rules in violation of antitrust laws, and engaged in tying/bundling and exclusive dealing. The parties entered into an agreement to settle the cases for a cash payment of $6.1 billion to the class plaintiffs (of which JPMorgan Chase's share is approximately 20%) and an amount equal to ten basis points of credit card interchange for a period of eight months to be measured from a date within 60 days of the end of the opt-out period. The agreement also provided for modifications to each credit card network's rules, including those that prohibit surcharging credit card transactions. In December 2013, the District Court granted final approval of the settlement.

A number of merchants appealed 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. The case has been remanded to the District Court for further proceedings consistent with the appellate decision. Both the plaintiffs and the defendants have filed petitions seeking review by the U.S. Supreme Court of the Second Circuit's decision.

In addition, certain merchants have filed individual actions against Visa and MasterCard, as well as against JPMorgan Chase and other banks, and those actions are proceeding.

Investment Management Litigation. JPMorgan Chase is defending two pending cases that are coordinated for pre-trial and trial purposes, alleging that investment portfolios managed by J.P. Morgan Investment Management ("JPMIM") were inappropriately invested in securities backed by residential real estate collateral. Plaintiffs Assured Guaranty (U.K.) and Ambac Assurance UK Limited claim that JPMIM is liable for total losses of more than $1 billion in market value of these securities. Discovery has been completed. In January 2016, plaintiffs filed a joint partial motion for summary judgment in the coordinated actions. In February 2017, the Court ruled in plaintiffs' favor as to the interpretation of an applicable statutory provision and the rejection of a certain defense, but otherwise preserved for trial the determination of whether JPMIM breached the governing contract and is liable for plaintiffs' claimed losses under the standard of gross negligence. The trial is scheduled to begin in March 2017.

Lehman Brothers Bankruptcy Proceedings. In January 2016, JPMorgan Chase Bank, N.A. and Lehman Brothers Holdings Inc. ("LBHI") and several of LBHI's subsidiaries reached an agreement, approved by the Bankruptcy Court, resolving several disputes between the parties. The January 2016 settlement did not resolve the following remaining matters: In the Bankruptcy Court proceedings, LBHI and its Official Committee of Unsecured Creditors filed an objection to the claims asserted by JPMorgan Chase Bank, N.A. against LBHI with respect to clearing advances made to

Lehman Brothers Inc., principally on the grounds that JPMorgan Chase had not conducted the sale of the securities collateral held for its claims in a commercially reasonable manner. LBHI also brought two claims objections relating to securities lending claims and a group of other smaller claims. In January 2017, JPMorgan Chase entered into an agreement to settle all of these remaining claims, and this settlement has been approved by the Bankruptcy Court.

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. Department of Justice ("DOJ"), the U.S. Commodity Futures Trading Commission ("CFTC"), the U.S. Securities and Exchange Commission ("SEC") and various state attorneys general, as well as the European Commission ("EC"), the U.K. Financial Conduct Authority ("FCA"), the Canadian Competition Bureau, 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 is submitted to the European Banking Federation ("EBF") in connection with the setting of the EBF's Euro Interbank Offered Rates ("EURIBOR") and to the Japanese Bankers' Association for the setting of Tokyo Interbank Offered Rates ("TIBOR"), as well as processes for the setting of U.S. dollar ISDAFIX rates and other reference rates in various parts of the world during similar time periods. JPMorgan Chase is responding to and continuing to cooperate with these inquiries. As previously reported, JPMorgan Chase has resolved EC inquiries relating to Yen LIBOR and Swiss Franc LIBOR. In December 2016, JPMorgan Chase resolved ComCo inquiries relating to these same rates. ComCo's investigation relating to EURIBOR, to which JPMorgan Chase and other banks are subject, continues. In December 2016, the EC issued a decision against JPMorgan Chase and other banks finding an infringement of European antitrust rules relating to EURIBOR. JPMorgan Chase has filed an appeal with the European General Court. In June 2016, the DOJ informed JPMorgan Chase that the DOJ had closed its inquiry into LIBOR and other benchmark rates with respect to JPMorgan Chase without taking action. Other inquiries have been discontinued without any action against JPMorgan Chase, including by the SEC, FCA and the Canadian Competition Bureau.

In addition, JPMorgan Chase has been named as a defendant along with other banks in a series of individual and putative class actions filed in various United States District Courts. 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 the U.S. dollar LIBOR, Yen LIBOR, Swiss franc LIBOR, Euroyen TIBOR, EURIBOR, Singapore Interbank Offered Rate ("SIBOR"), Singapore Swap Offer Rate ("SOR") and/or the Bank Bill Swap Reference Rate ("BBSW") 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 U.S. dollar LIBOR, Yen LIBOR, Swiss franc LIBOR, Euroyen TIBOR, EURIBOR, SIBOR, SOR or BBSW and assert a variety of claims including antitrust claims seeking treble damages. These matters are in various stages of litigation.

In the U.S. dollar LIBOR-related actions, the District Court dismissed certain claims, including the antitrust claims, and permitted other claims under the Commodity Exchange Act and common law to proceed. In May 2016, the United States Court of Appeals for the Second Circuit vacated the dismissal of the antitrust claims and remanded the case to the District Court to consider, among other things, whether the plaintiffs have standing to assert antitrust claims. In July 2016, JPMorgan Chase and other defendants again moved in the District Court to dismiss the antitrust claims, and in December 2016, the District Court granted in part and denied in part defendants' motion, finding that certain plaintiffs lacked standing to assert antitrust claims. Separately, in October 2016, JPMorgan Chase and other defendants filed a petition to the U.S. Supreme Court seeking review of the Second Circuit's decision that vacated the dismissal of plaintiffs' antitrust claims. That petition was denied.

JPMorgan Chase is one of the defendants in a number of putative class actions alleging that defendant banks and ICAP conspired to manipulate the U.S. dollar ISDAFIX rates. Plaintiffs primarily assert claims under the federal antitrust laws and Commodity Exchange Act. In April 2016, JPMorgan Chase settled the ISDAFIX litigation, along with certain other banks. Those settlements have been preliminarily approved by the Court.

Madoff Litigation. A putative class action was filed in the United States District Court for the District of New Jersey by investors who were net winners (i.e., Madoff customers who had taken more money out of their accounts than had been invested) in Madoff's Ponzi scheme and were not included in a prior class action settlement. These plaintiffs allege violations of the federal securities law, as well as other state and federal claims. A similar action was filed in the United States District Court for the Middle District of Florida, although it was not styled as a class action, and included claims pursuant to Florida statutes. The Florida court granted JPMorgan Chase's motion to dismiss the case, and in August 2016, the United States Court of Appeals for the Eleventh Circuit affirmed the dismissal. The plaintiffs have

filed a petition for writ of certiorari with the United States Supreme Court. In addition, the same plaintiffs have re-filed their dismissed state claims in Florida state court, where JPMorgan Chase's motion to dismiss is pending. The New Jersey court granted a transfer motion to the United States District Court for the Southern District of New York, which granted JPMorgan Chase's motion to dismiss, and the plaintiffs have filed an appeal of that dismissal.

Mortgage-Backed Securities and Repurchase Litigation and Related Regulatory Investigations. JPMorgan Chase and affiliates (together, "JPMC"), Bear Stearns and affiliates (together, "Bear Stearns") and certain Washington Mutual affiliates (together, "Washington Mutual") have been named as defendants in a number of cases in their various roles in offerings of mortgage-backed securities ("MBS"). Following the settlements referred to below, the remaining civil cases include one investor action, one action by a monoline insurer relating to Bear Stearns' role solely as underwriter, and actions for repurchase of mortgage loans. JPMorgan Chase and certain of its current and former officers and Board members have also been sued in shareholder derivative actions relating to JPMorgan Chase's MBS activities, and one action remains pending.

Issuer Litigation – Individual Purchaser Actions. With the exception of one remaining action, JPMorgan Chase has settled all of the individual actions brought against JPMC, Bear Stearns and Washington Mutual as MBS issuers (and, in some cases, also as underwriters of their own MBS offerings).

Underwriter Actions. JPMorgan Chase is defending one remaining action by a monoline insurer relating to Bear Stearns' role solely as underwriter for another issuer's MBS offering. The issuer is defunct.

Repurchase Litigation. JPMorgan Chase is defending a number of actions brought by trustees, securities administrators and/or master servicers of various MBS trusts on behalf of purchasers of securities issued by those trusts. These cases generally allege breaches of various representations and warranties regarding securitized loans and seek repurchase of those loans or equivalent monetary relief, as well as indemnification of attorneys' fees and costs and other remedies. JPMorgan Chase has reached a settlement with Deutsche Bank National Trust Company, acting as trustee for various MBS trusts, and the Federal Deposit Insurance Corporation (the "FDIC") in connection with the litigation related to a significant number of MBS issued by Washington Mutual; that case is described in the Washington Mutual Litigations section below. Other repurchase actions, each specific to one or more MBS transactions issued by JPMC and/or Bear Stearns, are in various stages of litigation.

In addition, JPMorgan Chase and a group of 21 institutional MBS investors made a binding offer to the trustees of MBS issued by JPMC and Bear Stearns providing for the payment of $4.5 billion and the implementation of certain servicing changes by JPMC, to resolve all repurchase and servicing claims that have been asserted or could have been asserted with respect to 330 MBS trusts created between 2005 and 2008. The offer does not resolve claims relating to Washington Mutual MBS. The trustees (or separate and successor trustees) for this group of 330 trusts have accepted the settlement for 319 trusts in whole or in part and excluded from the settlement 16 trusts in whole or in part. The trustees' acceptance has received final approval from the court.

Additional actions have been filed against third-party trustees that relate to loan repurchase and servicing claims involving trusts sponsored by JPMC, Bear Stearns and Washington Mutual.

JPMorgan Chase has entered into agreements with a number of MBS trustees or entities that purchased MBS that toll applicable statute of limitations periods with respect to their claims, and has settled, and in the future may settle, tolled claims. There is no assurance that JPMorgan Chase will not be named as a defendant in additional MBS-related litigation.

Derivative Actions. A shareholder derivative action against JPMorgan Chase, as nominal defendant, and certain of its current and former officers and members of its Board of Directors relating to JPMorgan Chase's MBS activities is pending in California federal court. Defendants have filed a motion to dismiss the action.

Government Enforcement Investigations and Litigation. JPMorgan Chase is responding to an ongoing investigation being conducted by the DOJ's Criminal Division and two United States Attorney's Offices relating to MBS offerings securitized and sold by JPMorgan Chase and its subsidiaries.

Mortgage-Related Investigations and Litigation. In January 2017, a Consent Judgment was entered by the United States District Court for the Southern District of New York resolving allegations by the Civil Division of the United States Attorney's Office for the Southern District of New York that JPMorgan Chase violated the Fair Housing Act and Equal Credit Opportunity Act by giving pricing discretion to independent mortgage brokers in its wholesale lending distribution channel which, according to the government's model, may have charged higher fees and interest rates to African-American and Hispanic borrowers than non-Hispanic White borrowers during the period between 2006 and 2009. JPMorgan Chase denied liability but agreed to pay a total of approximately $55 million to resolve this matter. In addition, three municipalities have commenced litigation against JPMorgan Chase alleging violations of an unfair competition law or the Fair Housing Act. The municipalities seek, among other things, civil penalties for the unfair competition claim, and, for the Fair Housing Act claims, damages resulting from lost tax revenue and increased municipal costs associated with foreclosed

properties. The municipal actions are stayed pending an appeal by the City of Los Angeles to the United States Court of Appeals for the Ninth Circuit, as well as the United States Supreme Court's review of decisions of the United States Court of Appeals for the Eleventh Circuit which held, among other things, that the City of Miami has standing under the Fair Housing Act to pursue similar claims against other banks.

Municipal Derivatives Litigation. Several civil actions were commenced in New York and Alabama courts against JPMorgan Chase relating to certain Jefferson County, Alabama (the "County") warrant underwritings and swap transactions. The claims in the civil actions generally alleged that JPMorgan Chase made payments to certain third parties in exchange for being chosen to underwrite more than $3 billion in warrants issued by the County and to act as the counterparty for certain swaps executed by the County. The County filed for bankruptcy in November 2011. In June 2013, the County filed a Chapter 9 Plan of Adjustment, as amended (the "Plan of Adjustment"), which provided that all the above-described actions against JPMorgan Chase would be released and dismissed with prejudice. In November 2013, the Bankruptcy Court confirmed the Plan of Adjustment, and in December 2013, certain sewer rate payers filed an appeal challenging the confirmation of the Plan of Adjustment. All conditions to the Plan of Adjustment's effectiveness, including the dismissal of the actions against JPMorgan Chase, were satisfied or waived and the transactions contemplated by the Plan of Adjustment occurred in December 2013. Accordingly, all the above-described actions against JPMorgan Chase have been dismissed pursuant to the terms of the Plan of Adjustment. The appeal of the Bankruptcy Court's order confirming the Plan of Adjustment remains pending.

Petters Bankruptcy and Related Matters. JPMorgan Chase and certain of its affiliates, including One Equity Partners ("OEP"), have been named as defendants in several actions filed in connection with the receivership and bankruptcy proceedings pertaining to Thomas J. Petters and certain affiliated entities (collectively, "Petters") and the Polaroid Corporation. The principal actions against JPMorgan Chase and its affiliates have been brought by a court-appointed receiver for Petters and the trustees in bankruptcy proceedings for three Petters entities. These actions generally seek to avoid certain putative transfers in connection with (i) the 2005 acquisition by Petters of Polaroid, which at the time was majority-owned by OEP; (ii) two credit facilities that JPMorgan Chase and other financial institutions entered into with Polaroid; and (iii) a credit line and investment accounts held by Petters. In January 2017, the Court denied the defendants' motion to dismiss an amended complaint filed by the plaintiffs.

Proprietary Products Investigations and Litigation. In December 2015, JPMorgan Chase Bank, N.A. and J.P. Morgan Securities LLC agreed to a settlement with the SEC, and JPMorgan Chase Bank, N.A. agreed to a settlement with the CFTC, regarding disclosures to clients concerning conflicts associated with JPMorgan Chase's sale and use of proprietary products, such as J.P. Morgan mutual funds, in JPMorgan Chase's consumer & community banking and asset & wealth management wealth management businesses, and the U.S. Private Bank's disclosures concerning the use of hedge funds that pay placement agent fees to JPMorgan Chase broker-dealer affiliates. JPMorgan Chase settled with an additional government authority in July 2016, and continues to cooperate with inquiries from other government authorities concerning disclosure of conflicts associated with JPMorgan Chase's sale and use of proprietary products. A putative class action, which was filed in the United States District Court for the Northern District of Illinois on behalf of financial advisory clients from 2007 to the present whose funds were invested in proprietary funds and who were charged investment management fees, was dismissed by the Court. The dismissal has been affirmed on appeal.

Referral Hiring Practices Investigations. In November 2016, JPMorgan Chase entered into settlements with DOJ, the SEC and the Board of Governors of the Federal Reserve System (the "Federal Reserve") to resolve those agencies' respective investigations relating to a former hiring program for candidates referred by clients, potential clients and government officials in the Asia Pacific region. Other related investigations are ongoing, and JPMorgan Chase continues to cooperate with these investigations.

Washington Mutual Litigations. Proceedings related to Washington Mutual's failure are pending before the United States District Court for the District of Columbia and include a lawsuit brought by Deutsche Bank National Trust Company, initially against the FDIC and amended to include JPMorgan Chase Bank, N.A. as a defendant, asserting an estimated $6 billion to $10 billion in damages based upon alleged breaches of certain representations and warranties given by certain Washington Mutual affiliates in connection with mortgage securitization agreements. The case includes assertions that JPMorgan Chase Bank, N.A. may have assumed liabilities for the alleged breaches of representations and warranties in the mortgage securitization agreements. In June 2015, the court ruled in favor of JPMorgan Chase Bank, N.A. on the question of whether JPMorgan Chase or the FDIC bears responsibility for Washington Mutual Bank's repurchase obligations, holding that JPMorgan Chase Bank, N.A. assumed only those liabilities that were reflected on Washington Mutual Bank's financial accounting records as of September 25, 2008, and only up to the amount of the book value reflected therein. The FDIC has appealed that ruling.

JPMorgan Chase has also filed complaints in the United States District Court for the District of Columbia against the FDIC, in its corporate capacity as well as in its capacity as receiver for Washington Mutual Bank, asserting multiple

claims for indemnification under the terms of the Purchase & Assumption Agreement between JPMorgan Chase Bank, N.A. and the FDIC relating to JPMorgan Chase Bank, N.A.'s purchase of substantially all of the assets and certain liabilities of Washington Mutual Bank (the "Purchase & Assumption Agreement").

JPMorgan Chase, Deutsche Bank National Trust Company and the FDIC have signed a settlement agreement to resolve (i) pending litigation brought by Deutsche Bank National Trust Company against the FDIC and JPMorgan Chase Bank, N.A., as defendants, relating to alleged breaches of certain representations and warranties given by certain Washington Mutual affiliates in connection with mortgage securitization agreements and (ii) JPMorgan Chase Bank, N.A.'s outstanding indemnification claims pursuant to the terms of the Purchase & Assumption Agreement. The settlement is subject to certain judicial approval procedures, and both matters are stayed pending approval of the settlement.

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* on November 30, 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. JPMorgan Chase has been successful in legal challenges made to the Court of Cassation, France's highest court, which have been referred back to and remain pending before the Paris Court of Appeal. In addition, civil proceedings have been commenced against JPMorgan Chase Bank, N.A. by a number of the managers. 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, including in certain cases, JPMorgan Chase Bank, N.A., are named as defendants or are otherwise involved in a substantial number of other legal proceedings. JPMorgan Chase and JPMorgan Chase Bank, N.A. each believes it has meritorious defenses to the claims asserted against it in its currently outstanding legal proceedings and it intends to defend itself vigorously in all such matters. Additional legal proceedings may be initiated from time to time in the future.

JPMorgan Chase Bank, N.A. has established reserves for several hundred of its currently outstanding legal proceedings. In accordance with the provisions of U.S. GAAP for contingencies, JPMorgan Chase Bank N.A. 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. JPMorgan Chase Bank N.A. 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. During the years ended December 31, 2016, 2015 and 2014, JPMorgan Chase's legal expense was a benefit of $(289) million and an expense of $2.0 billion and $2.3 billion, respectively. Where a particular litigation matter involves one or more subsidiaries or affiliates of JPMorgan Chase, JPMorgan Chase determines the appropriate allocation of legal expense among those subsidiaries or affiliates (including, where applicable, JPMorgan Chase Bank, N.A.). There is no assurance that JPMorgan Chase Bank N.A.'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, JPMorgan Chase and JPMorgan Chase Bank, N.A. 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 impact related to those matters. JPMorgan Chase Bank, N.A. believes, based upon its current knowledge, after consultation with counsel and after taking into account its current litigation reserves, that the legal proceedings currently pending against it should not have a material adverse effect on JPMorgan Chase Bank, N.A.'s consolidated financial condition. JPMorgan Chase Bank, N.A. 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 Bank, N.A.'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 Bank, N.A.'s income for that period.

2016 Form 10-K: Annual report on Form 10-K for year ended December 31, 2016, 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

AOCI: Accumulated other comprehensive income/(loss)

ARM: Adjustable rate mortgage(s)

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 Bank, N.A. 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

CCP: "Central counterparty" is a clearing house that interposes itself between counterparties to contracts traded in one or more financial markets, becoming the buyer to every seller and the seller to every buyer and thereby ensuring the future performance of open contracts. A CCP becomes counterparty to trades with market participants through novation, an open offer system, or another legally binding arrangement.

CDS: Credit default swaps

CEO: Chief Executive Officer

CET1 Capital: Common Equity Tier 1 Capital

CFO: Chief Financial Officer

CFTC: Commodity Futures Trading Commission

CIO: Chief Investment Office

CLO: Collateralized loan obligations

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.

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 adjustments

Dodd-Frank Act: Wall Street Reform and Consumer Protection Act

DOJ: U.S. Department of Justice

DOL: U.S. Department of Labor

DRPC: Directors' Risk Policy Committee

DVA: Debit valuation adjustment

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

ETD: "Exchange-traded derivatives": Derivative contracts that are executed on an exchange and settled via a central clearing house.

EU: European Union

Fannie Mae: Federal National Mortgage Association

FASB: Financial Accounting Standards Board

FCA: Financial Conduct Authority

FDIA: Federal Depository Insurance Act

FDIC: Federal Deposit Insurance Corporation

Federal Reserve: The Board of the Governors of the Federal Reserve System

FFELP: Federal Family Education Loan Program

FFIEC: Federal Financial Institutions Examination Council

FHA: Federal Housing Administration

FHLB: Federal Home Loan Bank

FICO score: A measure of consumer credit risk provided by credit bureaus, typically produced from statistical models by Fair Isaac Corporation utilizing data collected by the credit bureaus.

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 bonds: Bonds issued by the government of one of the G7 nations.

Ginnie Mae: Government National Mortgage Association

GSE: Fannie Mae and Freddie Mac

GSIB: Global systemically important banks

HAMP: Home affordable modification program

HELOAN: Home equity loan

HELOC: Home equity line of credit

Home equity – senior lien: Represents loans and commitments where JPMorgan Chase Bank, N.A. holds the first security interest on the property.

Home equity – junior lien: Represents loans and commitments where JPMorgan Chase Bank, N.A. holds a security interest that is subordinate in rank to other liens.

HTM: Held-to-maturity

Impaired loan: Impaired loans are loans measured at amortized cost, for which it is probable that JPMorgan Chase Bank, N.A. 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

Interchange income: A fee paid to a credit card issuer in the clearing and settlement of a sales or cash advance transaction.

Investment-grade: An indication of credit quality based on JPMorgan Chase Bank, N.A.'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.

ISDA: International Swaps and Derivatives Association

JPMorgan Chase: JPMorgan Chase & Co.

JPMorgan Chase Bank, N.A.: JPMorgan Chase Bank, National Association

LCR: Liquidity coverage ratio

LGD: Loss given default

LIBOR: London Interbank Offered Rate

LLC: Limited Liability Company

LTIP: Long-term incentive plan

LTV: "Loan-to-value": 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.

Master netting agreement: An agreement between two counterparties who have multiple contracts with each other that provides for the net settlement of all contracts, as well as cash collateral, through a single payment, in a single currency, in the event of default on or termination of any one contract.

MBS: Mortgage-backed securities

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 combined loan-to-value ("CLTV") ratio; (iii) loans secured by non-

owner occupied properties; or (iv) a debt-to-income ratio above normal limits. A substantial proportion of JPMorgan Chase Bank, N.A.'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.

NAV: Net Asset Value

NM: Not meaningful

NOL: Net operating loss

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 have 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.

OAS: Option-adjusted spread

OCC: Office of the Comptroller of the Currency

OCI: Other comprehensive income/(loss)

OPEB: Other postretirement employee benefit

Over-the-counter ("OTC") derivatives: Derivative contracts that are negotiated, executed and settled bilaterally between two derivative counterparties, where one or both counterparties is a derivatives dealer.

Over-the-counter cleared ("OTC-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

Participating securities: Represents unvested stock-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 stock-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.

PCA: Prompt corrective action

PCI: "Purchased credit-impaired" loans represents loans that were acquired in the Washington Mutual transaction 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 Regulatory Authority

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 JPMorgan Chase Bank, N.A. is willing to buy a financial or other instrument and the price at which JPMorgan Chase Bank, N.A. 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, JPMorgan Chase Bank, N.A. 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, foreign exchange risk and commodity risk, and (c) other derivatives.

PSU(s): Performance share units

REIT: "Real estate investment trust": A special purpose investment vehicle that provides investors with the ability to participate directly in the ownership or financing of real-estate related assets by pooling their capital to purchase and manage income property (i.e., equity REIT) and/or mortgage loans (i.e., mortgage REIT). REITs can be publicly or privately held and they also qualify for certain favorable tax considerations.

Receivables from customers: Primarily represents margin loans to 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 JPMorgan Chase Bank, N.A.'s Consolidated balance sheets.

REO: Real estate owned

Retained loans: Loans that are held-for-investment (i.e., excludes loans held-for-sale and loans at fair value).

RHS: Rural Housing Service of the U.S. Department of Agriculture

RWA: "Risk-weighted assets": Basel III establishes two comprehensive methodologies for calculating RWA (a Standardized approach and an Advanced approach) which include capital requirements for credit risk, market risk, and in the case of Basel III Advanced, also operational risk. Key differences in the calculation of credit risk RWA between the Standardized and Advanced approaches are that for Basel III Advanced, credit risk RWA is based on risk-sensitive approaches which largely rely on the use of internal credit models and parameters, whereas for Basel III Standardized, credit risk RWA is generally based on supervisory risk-weightings which vary primarily by counterparty type and asset class. Market risk RWA is calculated on a generally consistent basis between Basel III Standardized and Basel III Advanced, both of which incorporate the requirements set forth in Basel 2.5.

RSU(s): Restricted stock units

S&P: Standard and Poor's 500 Index

SAR(s): Stock appreciation rights

SEC: Securities and Exchange Commission

SLR: Supplementary leverage ratio

SMBS: Stripped mortgage-backed securities

SOA: Society of Actuaries

SPEs: Special purpose entities

Structured notes: Structured notes are predominantly financial instruments containing embedded derivatives.

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.

TDR: "Troubled debt restructuring" is deemed to occur when JPMorgan Chase Bank, N.A. 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. GAAP: Accounting principles generally accepted in the U.S.

U.S. government-sponsored enterprises ("U.S. GSEs") and U.S. GSE obligations: In the U.S., GSEs are quasi-governmental, privately held entities established by 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, which is directly owned by the U.S. Department of Housing and Urban Development. 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. LCR: Liquidity coverage ratio under the final U.S. rule.

U.S. Treasury: U.S. Department of the Treasury

VA: U.S. Department of Veterans Affairs

VCG: Valuation Control Group

VGF: Valuation Governance Forum

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.

Washington Mutual transaction: On September 25, 2008, JPMorgan Chase acquired certain of the assets of the banking operations of Washington Mutual Bank ("Washington Mutual") from the FDIC.